

INTRODUCTION TO PHILOSOPHY

through reading four complete masterpieces in the history of philosophy (three in translation):

an anthology of public domain texts compiled by Monte Ransome Johnson
for students at the University of California, San Diego, version 2020ii22

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Plato, *Gorgias*, translated by E. M. Cope (Cambridge, 1864).

- The work was written in Greek by Plato (429-347 B.C.) in the fourth century B.C.
- An English translation by E. M. Cope appears on pages 2-133 of this PDF.
- The excerpt was taken from a public domain work available at: <URL=<https://archive.org/details/platosgorgias00copegoog/page/n7/mode/2up>>
- Cite Plato by Stephanus page number, displayed in the margin of Cope's translation, and also include a reference to the page of the translation. Be sure to note which character is speaking in the dialogue (e.g. Socrates, Polus, Gorgias, Callicles). For example: Plato has Gorgias say, "for many years nobody has ever yet asked me any new question" (Plato, *Gorgias* 447, tr. Cope, p.2).
- Cite the translation in your bibliography under "Plato" exactly as it appears above, including the place and date (Cambridge, 1964).

Lucretius, *On the Nature of Things*, translated by Cyril Bailey (Oxford, 1910).

- The work was written in Latin by Lucretius (c.94-55 B.C.) in the first century B.C.
- An English translation by Cyril Bailey appears on pp.134-391 of this PDF.
- The excerpt was taken from a public domain work available at: <URL = <https://archive.org/details/onnatureofthings01lucruoft/mode/2up>>
- Cite Lucretius by book number, displayed at the header of Bailey's translation, and also include a reference to the page of the translation. For example: Lucretius writes, "This terror, then, this darkness of the mind, must needs be scattered not by the rays of the sun and the gleaming shafts of day, but by the outer view and the inner law of nature" (Lucretius, *On the Nature of Things* I, tr. Bailey, p.31).
- Cite the translation in your bibliography under "Lucretius" exactly as it appears above, including the place and date (Oxford, 1910).

René Descartes, *Discourse on the Method*, translated from French by John Veitch (London, 1912).

- The work was written in French by René Descartes (1596-1650) and published in 1637.
- An English translation by John Veitch appears on pp.392-481 of this PDF.
- The excerpt was taken from a public domain work available at: <URL=<https://archive.org/details/discourseonmetho00descrich/page/n4/mode/2up>>
- Cite Descartes by part number, and by the page number in Veitch's translation. For example: Descartes says, "Good sense is, of all things among men, the most equally distributed" (Descartes, *Discourse*, part I, tr. Veitch, p.1).
- Cite the translation in your bibliography under "Descartes" exactly as it appears above, including the place and date (London, 1912).

David Hume, *Inquiry concerning Human Understanding*, in *The Philosophical Works of David Hume*, volume IV (Boston and Edinburgh, 1864).

- The work was written in English by David Hume (1711-1776) and originally published in 1748.
- The English text appears on pp.482-672 of this PDF.
- The excerpt was taken from a public domain work available at: <URL = <https://archive.org/details/philosophicalwo03humeoog/page/n92/mode/2up>>
- Cite Hume's *Inquiry into Human Nature* by section number, and the page number in the 1864 edition.
- For example: Hume says, "Moral philosophy, or the science of human nature, may be treated after two different manners" (Hume, *Inquiry concerning Human Understanding*, part I, 1864, p.1).

PLATO'S GORGIAS,

LITERALLY TRANSLATED,

WITH AN INTRODUCTORY ESSAY, CONTAINING
A SUMMARY OF THE ARGUMENT.

BY

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PLATO'S GORGIAS.

Callicles. THIS is the time, they say, Socrates, to come p. 447
in at a fight and a fray¹. c. 1.

Socrates. What? are we come at the tail of a feast, as
the saying is, and too late?

Cal. Yes indeed, and a very dainty feast it was. For
Gorgias has just been treating us to a fine long declamation.

Soc. Aye but for *that*, Callicles, my friend Chærephon
here is to blame, because he forced me to stay loitering in
the market-place.

Chærephon. No matter, Socrates: as I was the cause
so I'll find the cure. For Gorgias is a friend of mine, and
therefore he'll declaim for us, if you like at once, or if you
prefer it by and by.

Cal. How's that, Chærephon? Is Socrates anxious to
hear Gorgias?

Chær. To be sure, that's precisely the object of our being
here.

Cal. Well then if you please to come home to my
house— For Gorgias is staying with me, and he'll favour you
with one of his addresses.

Soc. Thank you, Callicles. But do you think he wouldn't
mind *conversing* with us? for I want to learn from the

¹ *Henry IV.* Part I. Act IV. Sc. 2, v. 74.

Fal. Well,

To the latter end of a fray and the beginning of a feast
Fits a dull fighter and a keen guest.

gentleman what is the real meaning of his art, and what it is that he professes to teach. The rest of his address he may deliver, as you say, at some future time.

Cal. There's nothing like asking him, Socrates. That in fact was one of the points in the address that he gave us. At all events he invited just now every one of the present company¹ to ask him any question he pleased, and he said he was ready to answer them all.

Soc. I am so glad to hear it. Ask him, Chærephon.

Chær. Ask him what?

Soc. Who he is.

Chær. What do you mean?

Soc. Why suppose he had been a maker of shoes, he would have answered, I presume, that he is a shoe-maker. You understand what I mean, don't you?

c. 2. *Chær.* I understand, and will ask him the question. Tell me, Gorgias, is it true, as Calicles here says, that you profess to answer any question that may be put to you?

448 *Gorgias.* Quite true, Chærephon; in fact, that was the very profession that I was making just now, and I tell you that for many years nobody has ever yet asked me any new question.

Chær. Then I presume you find no difficulty in answering, Gorgias.

Gor. You may try the experiment if you please, Chærephon.

Polus. Yes, 'egad, and upon me too, if you like, Chærephon. For I am afraid Gorgias must be quite tired by the long speech which he has just been delivering.

Chær. How say you, Polus? do you think that you can answer better than Gorgias?

¹ τῶν ἐνδον ὄντων. The dialogue opens in the street where Socrates and Chærephon, who are hurrying from the market-place to Calicles' house to see the distinguished foreigner, meet Calicles and his party who are just quitting it. Upon Calicles' invitation they turn back together: and the words τῶν ἐνδον ὄντων show that they are supposed by this time to have reached the house, where the rest of the dialogue is carried on.

Pol. And pray what does that matter, if I do it well enough for you?

Chær. Not at all. Well then, since such is your wish, answer me.

Pol. Ask away.

Chær. I will. If Gorgias had been master of the same art as his brother Herodicus, what name would it have been proper to give him? Would it not have been the same as the other?

Pol. No doubt it would.

Chær. Then in calling him a physician we should have given him his right name.

Pol. Yes.

Chær. And if he had been skilled in the art of Aristophon son of Aglaophon, or his brother (Polygnotus), what would it have been proper to call him?

Pol. Plainly a painter.

Chær. And as it is, what is the art in which his skill lies? and what would be the proper name to give him in consequence?

Pol. Chærephon, there are many arts amongst mankind from experiences experimentally invented: for it is experience that makes our days proceed by rule of art, the want of it by chance: and in each of these men participate various in various variously, the best of them in the best: of whom in fact Gorgias here is one, and so is a member of the noblest of all professions¹.

¹ This is no caricature, as Dr Whewell (*Platonic Dialogues*, II. 171), who adopts Mr Grote's views about Plato's relation to the early Sophists and their followers, insinuates: it is a literal quotation from Polus' *Art of Rhetoric*. The first clause is quoted by Syrianus, *Schol. ad Hermog.* ap. Spengel, *Art. Script.* p. 87; and the second by Aristotle, *Metaph.* A. 1. It appears probable from the former passage that these were the words with which the work commenced. It is characterised by the symmetrical and highly artificial structure which Gorgias introduced into his prose compositions, and even reproduces another of his peculiarities in the use of the poetical word *alôva* for *βλορ*. It displays besides a rhetorical figure, of which Polus seems to have been him-

c. 3. *Soc.* Rarely indeed to all appearance, Gorgias, is Polus provided for making speeches; still however he is not fulfilling his promise to Chærephon.

Gor. What in particular, Socrates?

Soc. He doesn't seem to me exactly to answer the question put to him.

Gor. Well then, if you please, do *you* ask him.

Soc. Not if you wouldn't mind answering yourself, but I should much prefer asking you. For it is plain to me even from what Polus has already said, that he has studied rather what is called the art of rhetoric, than that of (dialectical) conversation.

Pol. How so, Socrates?

Soc. Because, Polus, when Chærephon asks you what art Gorgias is master of, you pronounce an eulogium upon his art, just as if any one found fault with it; without answering what it is.

Pol. Why, didn't I answer that it was the noblest of all?

Soc. Yes indeed you did. But no one asked you what sort of art Gorgias' was, but what, and by what name Gorgias ought to be called; just as Chærephon traced out the line for you before, and you answered him fairly and in few words, so now in the same way tell us what the art is, and what we are to call Gorgias. Or rather, Gorgias, do you tell us yourself what *is* the art you are master of, and what we are to call you in consequence.

Gor. The art of rhetoric, Socrates.

Soc. Are we then to call you a rhetorician?

Gor. Aye a good one, Socrates, if you please to call me what 'I boast myself to be,' as Homer says.

Soc. Well, I will with pleasure.

Gor. Then pray do.

self the inventor: for the reduplication of the words *ἐμπειριῶν ἐμπείρωσ*, and *ἄλλοι ἄλλων ἄλλως*, is doubtless an exemplification of the *διπλασιολογία* which Plato, *Phædr.* 267. B...mentions as having been treated of by Polus in his art.

Soc. So then are we to say that you have the power of making others besides yourself the same?

Gor. Yes, I certainly make this profession, not only here but elsewhere as well.

Soc. Would you then be good enough, Gorgias, to finish the conversation in the way in which we are now talking together, in alternate question and answer, and lay aside that lengthy style, in which Polus just began, for a future occasion? Come now, keep your promise, and don't disappoint me; but consent to answer briefly the questions put to you.

Gor. There are some answers, Socrates, which are obliged to express themselves at great length: not but that I will do my best to make them as short as possible. For in fact this again is one of the things that I lay claim to, that no one could ever express the same meaning in fewer words than myself.

Soc. That's exactly what we want, Gorgias. This is precisely what I should like you to give us a specimen of, your short style; your lengthy one you can reserve for some future time.

Gor. Well, I will do so; and you shall say that you never heard any one use fewer words.

Soc. Come then. Since you say that you are master c. 4. of the art of rhetoric, and can make any one else an orator—what of all things is it that rhetoric deals with? as weaving for instance is employed upon the production of clothes; isn't it?

Gor. Yes.

Soc. And music, again, upon the composition of tunes?

Gor. Yes.

Soc. Faith, Gorgias, I *do* admire your replies. You are indeed answering in the very fewest possible words.

Gor. (*Complacently.*) Yes, and I think I do it very tolerably well, Socrates.

Soc. You are perfectly right. Come, then, answer me

in the same way about rhetoric again; what *are* the things to which its knowledge is applied?

Gor. To words.

Soc. To what sort of words, Gorgias? Do you mean those that point out by what course of treatment the sick may recover their health?

Gor. No.

Soc. Then rhetoric does not deal with all words.

Gor. Certainly not.

Soc. But still it makes men able to speak.

Gor. Yes.

Soc. And to understand what they talk about as well?

450 *Gor.* Of course it does.

Soc. Well, but doesn't the art we were just now speaking of, medicine I mean, make men able to understand as well as to speak about the sick?

Gor. Necessarily.

Soc. Then medicine too, it seems, deals with words?

Gor. Yes.

Soc. Those which are about diseases?

Gor. Precisely.

Soc. Well and doesn't the gymnastic art too deal with words, those namely which relate to the good and bad condition of bodies?

Gor. Certainly.

Soc. And moreover the case is the same, Gorgias, with all other arts besides: each of them deals with words—those, that is, that belong to the thing which is the object of each particular art.

Gor. So it appears.

Soc. Then why in the world don't you call all the rest of the arts rhetorical, when they are about 'words,' if you give the name of rhetoric to every one which deals with words?

Gor. Because, Socrates, in all the other arts the knowledge is, so to speak, entirely confined to manual operations

and such like actions, whereas in rhetoric there is no such manual process involved; but of all that it does and all that it effects words are the vehicle. That is why I claim on behalf of rhetoric that it is the art that deals with words; and I maintain that I am right.

Soc. I wonder whether I quite understand what sort of art you mean to call it? (Never mind.) I shall know better by and by. Pray now answer me. We have such things as arts, haven't we?

Gor. Yes.

Soc. But of all these arts, some I believe have production for their chief object, and require few words—some indeed none at all; in fact, the objects of the art might be carried out even in silence; such as painting and sculpture and many others. That is the kind which you seem to have in view, when you say that rhetoric has no connection with them. Isn't it?

Gor. You take my meaning perfectly, Socrates.

Soc. But other arts there are which perform all their operations by means of words, and as to acts, require either none at all, as one may say, in addition, or only in a very trifling degree; such as numeration for example, and reckoning, and land-measuring, and draughts, and a number of other arts, some of which have their 'words' pretty nearly equal in amount to their actions, most of them indeed more numerous; or even altogether their processes are carried on and their effects produced entirely by means of words. It is to this class, I believe, that you understand rhetoric to belong.

Gor. Quite true.

Soc. But I don't at all suppose that you mean to call any one of these rhetoric, although this *was* implied by the expression you used, in saying that the art whose effects are produced by words is rhetoric; and one might suppose if one chose to be captious in arguing, so then you mean arithmetic by rhetoric, do you, Gorgias? But I don't believe you

do mean either arithmetic or geometry when you speak of rhetoric.

451 *Gor.* And quite right too, Socrates; your supposition is perfectly just.

c. 6 *Soc.* Then let us begin at once, and do you do *your* part in dispatching the answer to my question. For as rhetoric is found to be one of those arts which chiefly employ words, and there are others also of the same kind, try to explain to me what it is in words upon which rhetoric operates in producing its effects; suppose, for instance, any one were to ask me about any one you please of the arts I just now mentioned—what is the art of numeration, Socrates? I should tell him, as you said just now, that it is one of those that produce their effects by words. And if he were further to inquire, what are those about? I should say that it is one of those which are about (have for their object) the even and odd, the whole series of each of them, whatever the number may amount to. And if again he were to ask, And reckoning, what art do you call that? I should reply that this likewise is one of those that effects all its operations by words. And if he were to ask still further, what is its object? I should say, in the language of the framers of bills drawn for the assembly, 'in all else' the art of reckoning is 'like the foregoing';¹ for its object is the same, the even and the odd; but there is just this amount of difference between them, that the art of reckoning or arithmetic takes into consideration the relative as well as the absolute properties and relations of the even and the odd in point of number. And if the same question were repeated about

¹ This refers to the formula employed when a *προβούλευμα* of the Council was altered and modified in the general assembly. It was open to any citizen when a measure was sent down by the former body to the latter for its ratification, either to oppose it by a counter-proposition, or, accepting some of its provisions, to add others of his own, or to cancel or alter such as he disapproved. In the latter case, to avoid repetition, the proposed *ψήφισμα* usually commenced with the words *τὰ μὲν ἄλλα καθάπερ τῇ βουλῇ ἔδοξε*.

astronomy, and upon my replying, that this again effects all its processes by words, the questioner were to say, And what are the 'words' (calculations, the science) of astronomy about, Socrates? I should tell him that they are about the motion of the stars and the sun and moon, that is to say, their relative velocities.

Gor. And you would be quite right, Socrates.

Soc. Come then, in your turn, Gorgias. It so happens, you see, that rhetoric is one of those arts that effect and give force to all their operations by words. Isn't it?

Gor. It is so.

Soc. Then tell me what they deal with. What of all things in the world is that which is the object of the words which rhetoric employs?

Gor. The most important of all human things, Socrates, and the best.

Soc. Nay, Gorgias, here again what you say is open to c. 7. question, and by no means clear as yet. For I think you must have heard at parties after dinner people singing this catch, in which in the words of the song the good things of this life are enumerated, how that health is best of all, the second best thing is to be born handsome, and the third, as the author of the catch says, to be rich without fraud.

Gor. To be sure I have; but what is your object in mentioning this?

Soc. Because those whose business lies in all those things 452 that the composer of the catch spoke so highly of would straightway present themselves, physician and training-master and tradesman; and first of all the physician would say, My dear Socrates, Gorgias is deceiving you: for it is not his art that is employed upon mankind's greatest good, but mine. If then I were to ask him, And who are you that say this? he would reply probably, A physician. What say you then? Is it your art that has the greatest good for its object? How can health, Socrates, he would say very likely, be anything else? What greater blessing *can* men have than health?

And if again after him the trainer were to say, I should be surprised too myself, Socrates, if Gorgias can point out to you any greater good in his own art than I in mine; I should make answer to him again as to the other, And who may *you* be, my friend, I should like to know? and what's *your* business? A professor of gymnastics, he would say; and my business is to make men strong and handsome in their persons. And next to the training-master the tradesman, I dare say, would tell us with a lofty scorn of them all, Do pray consider, Socrates, whether you think that there is any blessing superior to wealth, either in the eyes of Gorgias or of any one else whatsoever. We should say to him accordingly, What's that pray? are you the man that makes that? He would say yes. And what's *your* name? A man of business. How then? do you judge wealth to be the greatest blessing to mankind? we shall say. Of course I do, he will reply. Aye, but Gorgias here contends that his own art is the source of greater good than yours, we should say. Plainly then his next question would be, And what is this good? let Gorgias make answer. Come then, Gorgias, consider yourself to be questioned by them as well as me, and answer us what is that which *you* say is the greatest good to mankind, and that you can produce it.

Gor. That, Socrates, which really is the greatest good and the cause at once of freedom to men in general in their own persons, and no less to the individual man of acquiring power over others in his own city.

Soc. What name then pray do you give to this?

Gor. The power of persuading by words, I should call it, the judges in a court of law, or the councillors in a council-room, or the assembly men in an assembly, or any other kind of meeting which is convened for a public purpose. And yet (in spite of all you have said) by the aid of this talent you may make the physician your slave, and the trainer your slave: and for your famous man of business, it will turn out that *he* makes his money for somebody

else and not for himself, but for you who have the power of speaking and gaining the ear of the multitudes.

Soc. Now, Gorgias, I think you *have* come very near c. 8. to an explanation of what you understand by the art of rhetoric, and, if I at all enter into your meaning, you define 453 rhetoric to be the artificer of persuasion, and you say that its entire business and the whole sum and substance of it results in this. Or have you any power to mention that rhetoric possesses beyond that of producing persuasion in the minds of the hearers?

Gor. None at all, Socrates; your definition seems to me to be sufficient; this *is* no doubt the sum and substance of it.

Soc. Then listen to me, Gorgias. I flatter myself, you may be quite sure, that if there be any one else¹ in the whole world that engages in a discussion from a genuine desire to know just what the argument is about and no more, *I* too am one of that sort; and I make no doubt that you are another.

Gor. Well, what then, Socrates?

Soc. I'll tell you directly. What your view is of the exact nature of the persuasion produced by rhetoric, and of the subjects to which it is applied, I assure you I by no means clearly understand; though at the same time I have a kind of suspicion of what I suppose you to mean by it, and what it deals with. Still I will ask you nevertheless what you *do* mean by the persuasion that proceeds from rhetoric, and what are the objects on which it is exercised.

¹ The word 'else,' just like the Greek *ἄλλος*, with which it may be etymologically connected, as well as 'other' 'the rest' and so on, are frequently found in the best English writers where they are redundant or involve a logical and grammatical inconsistency. I have elsewhere quoted *Macbeth*, 'Of all men else I have avoided thee.'

The explanation of this logical blunder, and the false grammar which expresses it, in the two classes of idioms in which it appears in Greek, I reserve for a more appropriate occasion than that which is offered by the notes to a mere translation.

Now why when I have a suspicion about the matter myself am I going to ask you instead of myself stating it? It is not on your account (not to refute or annoy you), but for the sake of the argument, that it may proceed in such a way as may make the subject of our conversation most clear to us. For see now if you don't think I am right in repeating my question. Take a parallel case. If my question had been, to what class of painters does Zeuxis belong? had you replied, he is a figure-painter, would it not have been quite fair in me to ask you, what sort of figures he paints, and on what occasions?

Gor. Quite so.

Soc. And is not the reason this, that there are besides him other painters employed upon a number of other figures?

Gor. Yes.

Soc. But if no one else were a painter but Zeuxis, your answer would have been right enough?

Gor. Of course it would.

Soc. Well then tell me about rhetoric in the same way; whether it is your opinion that rhetoric is the only art that produces persuasion, or others besides it. What I mean is something of this sort: when any one teaches anything, does he persuade in teaching it? or do you think otherwise?

Gor. Certainly not, Socrates; on the contrary, he most assuredly does persuade.

Soc. And again, if we apply our question to the same arts as we mentioned just now, does not numeration, or the man conversant with that science, teach us all the properties of number?

Gor. Yes, no doubt.

Soc. And so likewise persuades?

Gor. Yes.

Soc. Then numeration also is an artificer of persuasion?

Gor. It seems so.

Soc. So then if we are asked what kind of persuasion

and what about, we shall reply I presume, that which conveys instruction, which deals with the amounts of all the odd and even numbers. And we shall be able to show that all the rest of the arts that we were just now referring to are artificers of persuasion, and what that is, and what it is about. Shan't we?

Gor. Yes.

Soc. It follows that rhetoric is not the only artificer of persuasion.

Gor. True.

Soc. Since then it is not the only one that effects this object, but others besides it, we should be entitled next to put a further question to the speaker, as we did in the case of the painter, What sort of persuasion then is it of which rhetoric is the art, and what is that persuasion about? You think it would be fair, don't you, to put such a further question?

Gor. Oh, yes.

Soc. Answer me then, Gorgias, since you agree with me in this view.

Gor. Well then I mean that kind of persuasion, Socrates, which is exercised in law-courts and any other great crowds, as indeed I said just now; and it is about everything that is just and unjust.

Soc. I had a suspicion myself, to tell you the truth, Gorgias, that that was the kind of persuasion you meant, and that those were its objects: but that you may not be surprised if I ask you by and by some such question as seems to be quite clear, though I repeat it—for, as I say, I do so in order that our argument may be brought regularly to a conclusion; not on your account (for the pleasure of annoying or refuting you), but that we may not get into the habit of snatching up an over-hasty conclusion as to one another's meaning founded on a mere guess, but that you may state your views as you think fit according to your own notions.

Gor. Indeed, Socrates, in my opinion you are doing quite right.

Soc. Come then, let this be the next thing we examine. There is such a thing as what you call 'to have learnt'?

Gor. There is.

Soc. And again 'to have believed'?

Gor. Oh, yes.

Soc. Do you think then to have learnt and to have believed, and learning and believing, are the same thing, or something different?

Gor. Different, *I* should think, Socrates.

Soc. And quite right too: and you may be sure of it from this. If you were asked, Is there such a thing, Gorgias, as false as well as true belief? you would say yes, I presume.

Gor. I should.

Soc. But again, is there false as well as true knowledge?

Gor. Certainly not.

Soc. To be sure, because it plainly appears a second time that they are not identical¹.

Gor. True.

Soc. But still those that have learnt are persuaded, as well as those that have believed.

Gor. It is so.

Soc. Would you have us then assume two forms of persuasion, the one conveying belief without knowledge, the other knowledge?

Gor. Yes, by all means.

Soc. Then which of the two kinds of persuasion is it that rhetoric effects in law-courts or any other large assemblies on the subject of right and wrong? Is it that

¹ In this sentence *γάρ* has reference to Gorgias' decided *οὐδαμῶς*. 'You deny it so readily and so positively, *because*, here again, by this second process (*αὖ*), it is quite plain that they are not the same.'

which gives rise to belief without knowledge, or that from which knowledge springs?

Gor. Plainly, of course, Socrates, that which gives rise to belief.

Soc. Rhetoric then, it seems, is an artificer of persuasion 455 productive of belief but not of instruction in matters of right and wrong.

Gor. Yes.

Soc. Nor consequently is the rhetorician qualified to instruct law-courts or any other large masses of people on questions of right and wrong, but only to persuade them. For surely he never could be able to instruct such a great crowd in things of such importance in a few minutes.

Gor. Certainly not.

Soc. Come, then, let us see what we do actually mean c. 10. by rhetoric: for to tell you the truth, I can't yet distinctly make out even myself what my own opinion is. Whenever the city holds a meeting for the election of state-physicians or shipwrights or any other class of craftsmen, will not on such occasions the rhetorician refrain from offering his advice? plainly because in every election we are bound to choose the most skilful practitioner. Or, again, as to the building of walls, or the construction of harbours or docks, it is not he that will give advice, but the master-builders. Or, again, when advice is to be given upon the election of generals, or the disposition of troops to meet an enemy, or the occupation of military positions, on such occasions it is the military men that will advise, and not the rhetoricians. Or what say you, Gorgias, to such cases? For as you profess to be a speaker yourself and to qualify others for speaking, it is right to learn your opinion upon the matters of your own art. So pray suppose that *I* am acting now with a view to your interests. For very likely one of the present company here may be desirous of becoming a pupil of yours—as in fact I think I see some, and I dare say a good many—who perhaps might be ashamed to trouble you with repeated

questions. And so when I repeat mine, suppose yourself to be questioned by them as well. What good shall we get, Gorgias, by frequenting your society? On what subjects shall we be able to offer advice to the city? is it about right and wrong alone, or all those things besides which Socrates was just now mentioning? Try then to give them an answer.

Gor. Well, Socrates, I will try to reveal to you clearly the entire force and meaning of rhetoric: in fact you pointed out the way very well yourself. You know, I presume, that yonder docks and walls, the pride of your city¹, and the construction of your harbours, are due to the counsels of Themistocles, and partly to those of Pericles, but not to the masters of the several crafts.

Soc. So I am told, Gorgias, of Themistocles; *Pericles* I heard myself when he gave us his advice about building the 'middle wall'².

456 *Gor.* And so you see, Socrates, that wherever there is an election of such officers as you were just speaking of, it is the orators that give advice, and carry their opinions in such matters.

Soc. It is exactly because I was so surprised at this that I have been asking ever so long what the virtue of rhetoric can possibly be. For regarded in this light its grandeur and importance appear to me to be something quite supernatural.

Gor. Aye, if you knew all, Socrates, how it embraces

¹ On the difference between τὰ νεώρια καὶ τὰ τεῖχη τὰ Ἀθηναίων and τῶν Ἀθηναίων, see Stallbaum's note.

² τὸ διὰ μέσου τεῖχος is the interior or southern of the two 'long walls,' of 40 stadia each, which connected Athens with the Piræus. A third wall, shorter than the 'long walls,' of 35 stadia, led to the harbour of Phalerum. The 'middle wall' was built last of the three, in 457 B. C., during the administration of Pericles. It is called by Æschines, *de Fals. Leg.* τὸ νότιον τεῖχος—the exterior of the two μακρὰ τεῖχη being styled by way of distinction τὸ ἐξώθεν, or τὸ βόρειον τεῖχος. Thuc. I. 107, 108, II. 13, with Arnold's note; Thirlw. *Hist. of Greece*, III. 62, and note, 1st Ed.; Grote, *Hist. of Greece*, Vol. v. p. 440, VI. 26; and the article 'Athens' in Smith's *Dict. of Geography*.

under it every kind of power, as one may say. I will give you a convincing proof of it. I myself have often ere now, in company with my brother (Herodicus), or any other physician, gone into the house of one of their patients, and upon his refusing to take their medicines, or to submit to be operated upon either by the knife or the cautery, when the physician failed to persuade him, I succeeded, by the aid of no other art than that of rhetoric. And I maintain too that if a physician and a rhetorician went together into any city you please, supposing they had to argue out the question before a general assembly or any other kind of meeting which of the two was to be elected, orator or physician, the latter would be totally extinguished (totally eclipsed, altogether distanced), and the able speaker elected if he chose. And if the contest lay between him and the master of any other craft you please to name, the rhetorician would carry his own election sooner than any one else whatever: for there is no subject in the world on which the rhetorician could not speak more persuasively than the master of any other art whatsoever, before a multitude. Such then is the extent and such the quality of the power of this art. We are bound however, Socrates, to employ rhetoric in the same way as every other kind of exercise. For in fact all other exercises are not to be employed against every body indiscriminately merely because a man has become such a proficient in boxing and wrestling or the use of arms as to have the advantage over friend and foe: this does not entitle him to knock his friends down or stab or assassinate them. No by my faith, nor again if any one were to frequent a wrestling-school until he had got his body into prime condition, and become an expert pugilist, and then go and strike his father and his mother or any other of his relations or friends, would that be any reason for conceiving an aversion to trainers and fencing-masters, and expelling them from our cities. For they no doubt gave their lessons to these pupils of theirs with a view to the proper employment of them

against enemies and wrong-doers, in self-defence, not aggression: whereas the others pervert their strength and their art to an improper use. Yet it does not follow that the teachers are rogues, nor that their art is either to blame for all this, or bad in itself; but those that misuse it, in my opinion. For it is true that the orator is *able* to speak against every body and upon every question in such a way as to find greater acceptance with all large assemblies, on any subject in a word he chooses. But he is none the more entitled on that account to rob either the physicians of their due credit, because he could do it if he liked, or artists of any other kind; but he is bound to use his rhetoric fairly, like skill in any other exercise. But it seems to me that, supposing a man to make himself a rhetorician and then to use this faculty and this art to commit wrong, it is not the teacher that ought to incur odium and to be banished from our cities. For he gave his lessons to be turned to a fair use, but the other perverts them. It is therefore he that abuses the art that may fairly be held in aversion and banished or put to death, and not the teacher.

- c. 12 Soc. I believe, Gorgias, that you like myself have had a good deal of experience in arguments, and in the course of them have arrived at the discovery of something of this sort, that it is no easy matter for people to come to any definite agreement upon any questions they may have undertaken to discuss, and after giving and receiving instruction so to bring the conversation to an end; but on the contrary, if a dispute arises between them upon any point, and the one declares that the other expresses himself either incorrectly or indistinctly, they get angry, and suppose that what is said proceeds from jealousy of themselves, from a spirit of mere rivalry, and not from a wish to sift the question proposed for discussion. And in fact occasionally this results at last in the most indecent scenes, in mutual abuse and recrimination of such a kind that even the bystanders are vexed on their own account that they ever condescended to listen to such a

set of fellows. What then is my motive in saying this? It is because your present statements don't seem to me quite consistent or in harmony with what you said at first about rhetoric. Now I am afraid to refute you, for fear you should suppose that I speak with a disputatious object, not with a view to throw light upon the subject under discussion, but aiming at you personally. Now if you are one of the same 458 sort of persons as I am myself, I should be glad to continue my questions, but if not, I would rather let it alone. And what sort of person am I? I am one of those that would be glad to be refuted when I assert¹ anything that is untrue, and glad to refute any one else supposing he fall¹ into any error; but just as glad to be refuted as to refute, because I consider it a greater benefit, in proportion as the benefit is greater to be delivered oneself from the greatest evil than to deliver another. For I think that there is no evil that can befall a man so great as a false opinion upon the subjects which we now have under discussion. Now if you as well as myself profess yourself to be one of this sort let us go on with the conversation: but if on the other hand you think we had better drop it, let us at once dismiss it and break off the argument.

Gor. Nay, Socrates, I myself like you pretend to be one of that sort of persons whose character you are sketching: perhaps however we ought also to have consulted the convenience of the company present. For to say the truth, for some time before you came I had been delivering a long address to our friends here, and now again if we go on with our discussion we shall very likely protract it to a considerable length. We ought therefore to consider their inclina-

¹ Observe here the politeness of Socrates. In speaking of his own liability to error he uses the indicative mood, making a definite and positive supposition, and assuming the probability of the occurrence. In speaking of a similar infirmity in others the optative is substituted for the indicative, implying the uncertainty of the event, and avoiding the assertion that such a thing is at all likely to happen. There is the same distinction in our own language between the indicative and subjunctive after 'if.'

tions as well as our own, and not to detain them when they may be wanting to do something else. (*Sensation*).

c. 13 *Chær.* You hear yourselves, Gorgias and Socrates, the applause of our friends there, how anxious they are to hear any thing you have to say. For my own part however, God forbid that I should ever be so busy as to give up an argument so important and so well treated because I preferred doing anything else.

Cal. Yes, by my faith, Chærephon. And indeed for myself, though I have been present ere now at plenty of discussions I don't know that I ever in my life was so much gratified as on the present occasion; and therefore as far as I am concerned, if you choose to go on talking all day long you will do me a favour.

Soc. Well you may be sure, Callicles, there is nothing to prevent it on my part, if Gorgias consents.

Gor. After this Socrates, it would indeed be a shame for *me* to hang back, when I myself challenged the company to ask me any question they pleased. But if our friends here are of this mind, go on with the conversation and ask me what you like.

Soc. Then let me tell you, Gorgias, what surprises me in the words you used: to be sure I dare say you are right and it is I that misunderstand you. You say you are able to qualify any one for speaking who chooses to become your pupil.

Gor. Yes.

Soc. Does that mean then that he is qualified to gain the ear of a crowd on any subject, not by way of instruction but persuasion?

459 *Gor.* Just so.

Soc. You said just now if I mistake not that in sanitary matters too the orator will be more persuasive than the physician?

Gor. I certainly did, in a crowd that is to say.

Soc. Well and doesn't 'a crowd' mean the ignorant? for

surely amongst the well-informed he wont carry more weight than the physician?

Gor. Quite true.

Soc. And so if he is to be better able to persuade than the physician, he becomes better able to persuade than the man of real knowledge?

Gor. Yes certainly.

Soc. Not being a physician though, is he?

Gor. True.

Soc. But one who is not a physician is unversed I presume in the art of which the physician is master.

Gor. Plainly so.

Soc. It follows then that the ignorant man will be more persuasive among the ignorant than the man of real information, supposing the orator to be more persuasive than the physician. Does this follow, or any thing else?

Gor. In *this* case no doubt it does.

Soc. And so likewise in respect of all the rest of the arts the case is the same with the orator and with rhetoric; there is no occasion, that is to say, for them to be acquainted with the things themselves, but it is enough for them to have discovered some instrument of persuasion which may enable them to present the appearance to the ignorant of knowing better than the well informed.

Gor. Well and isn't it a great comfort, Socrates, without learning any of the other arts, but with this one alone, to be at no disadvantage in comparison with the professional people? c. 14

Soc. Whether the rhetorician is or is not at a disadvantage with the rest of the world by reason of this state of things [or, in consequence of this character, these qualifications of his] we will examine by and by, if we find that our argument requires it; but just at present let us consider this first, whether the rhetorician stands in the same relation to what is just and unjust and base and noble and good and bad, as to what is wholesome and the several objects of all the

other arts; that is to say, that he is ignorant of what is good or bad or honourable or disgraceful or just or unjust, in itself, but has devised the means of persuasion about them, so as with no knowledge at all to get the credit amongst the ignorant of knowing better than the man of real knowledge? Or is this knowledge absolutely required? and must any one who means to learn rhetoric be prepared with all this before he comes to you? or if not, shall you the master of the art give one who does come no instruction at all in these matters—for it's no business of yours—but make him in the eyes of the vulgar *seem* to know things of this kind when he doesn't, and *seem* to be good when he isn't? or will you be altogether unable to teach him rhetoric unless he have a previous acquaintance with the truth in these matters? or
 460 what are the real facts of the case, Gorgias? Do in heaven's name, as you said just now, draw aside the veil and tell us in what the virtue of rhetoric really does consist.

Gor. Well I suppose, Socrates, if he does not know all this already I shall have to teach him this as well.

Soc. Hold there (don't say any more), for that is well said. If you make a man a rhetorician he must needs be acquainted with what is just and unjust either beforehand, or afterwards from your instructions.

Gor. Just so.

Soc. How then? one who has learnt the art of building is a builder, isn't he?

Gor. Yes.

Soc. And so one who has learnt music a musician?

Gor. Yes.

Soc. And one who has studied medicine a physician? and so on for all the rest upon the same principle; every one who has studied any particular subject acquires that character which is imparted to him by the knowledge of it?

Gor. No doubt.

Soc. And so likewise by the same rule one that has learnt justice is a just man?

Gor. Most undoubtedly.

Soc. But the just man it is to be presumed does just things.

Gor. Yes.

Soc. So then must the rhetorician needs be a just man, and the just man desire to act justly ?

Gor. Yes, so it appears.

Soc. Consequently the just man will never desire to do wrong.

Gor. Necessarily.

Soc. And it follows from what we said that the rhetorician must be a just man.

Gor. Yes.

Soc. Consequently the rhetorician will never desire to do wrong.

Gor. No, it seems not.

Soc. Then do you remember saying a little while ago c. 15 that we have no right to find fault with the training masters nor expel them from our cities if a boxer makes an unfair use of his boxing and does wrong? and so in like manner if an orator employs his rhetoric unfairly, we are not accuse the teacher or expel *him* from the city, but the man that does the wrong and misuses his rhetoric? was that said or not?

Gor. It was.

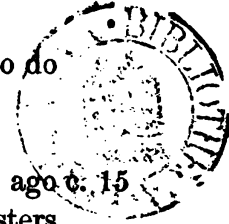
Soc. But now it appears that that very same person, the rhetorician, never could have been guilty of any wrong at all, doesn't it?

Gor. It does.

Soc. And at the beginning of our conversation, Gorgias, it was stated that rhetoric deals with words, not words about even and odd numbers, but about what is just and unjust; wasn't it?

Gor. Yes.

Soc. Well I supposed at the very time when you made that remark that rhetoric never could be an unjust thing.



when all the speeches that it makes are about justice; but, 461 when you told us shortly after that the orator might make an unjust use of his rhetoric, *then* I *was* surprised, and thinking that the two assertions did not harmonize with one another I said what I did, that if you thought it like myself an advantage to be refuted it was advisable to continue the conversation, or if not to let it drop: and now that we afterwards come to examine the point, you see yourself that we are come again to the conclusion that it is impossible for the rhetorician to make an unjust use of his rhetoric or consent to do wrong. Now to sift this matter thoroughly and satisfactorily to make out what the exact truth of it may be, by the dog, Gorgias, is a thing not to be done in a short interview.

c. 16 *Pol.* How's that, Socrates? is that your real opinion about rhetoric that you are now stating? Or do you suppose because Gorgias was ashamed not to admit that the rhetorician is acquainted with justice and honour and good, and if a pupil come to him without knowing all this that he will teach it himself—and then from this admission there followed I dare say some slight inconsistency in the expressions he used—just what you are so fond of, when it was you yourself that turned the conversation upon questions of that sort¹?

¹ In the foregoing sentence, if *ὅτι* is rendered 'because,' as it probably should be, there is an anacoluthon. Stallbaum in his 3rd ed. supposes that Polus means to deny that there *is* any inconsistency, and therefore thinks that the anacoluthon resides in the change of *συμβῆναι*, which should follow *οἷε*, into *συνέβη*: and that the note of interrogation should be removed after *διδάξω* and a comma substituted. As I believe that the supposition upon which this rendering is based is incorrect, I prefer following the Zurich Editors and retaining the note of interrogation. The entire sentence down to *ἐρωτήματα* is irregular; and this irregularity is very likely meant to express, as Stallbaum conjectures, the impetuosity and precipitation by which Polus' language is characterised. I have rendered it as if the apodosis were wanting after *οἷε ὅτι*. This would naturally be, 'think you because.....that this is really his opinion, and that you have any right to triumph over him?' and this is implied in what follows. If *ὅτι* is rendered 'that,' the meaning is, 'or rather, think you, that...' i.e. don't you rather think that. Heindorf's version is 'an (quod res est) pudore deterritum Gorgiam putas...' which is tantamount to the preceding.

For who do you think is likely to deny either that he is acquainted with justice himself, or can teach it to others? Nay, it is very unmannerly (ill bred, bad taste in you) to turn the conversation upon such things as these.

Soc. Well to be sure, fairest Polus, it is precisely for this reason that we provide ourselves with friends and children that as soon as the advance of age has made our footing uncertain you youngsters may be there to set our life on its legs again in word as well as in deed. And now if Gorgias and I are making any false step in our argument there you are to set us right again: indeed you are bound to do so. And I on my part am ready if you think any of our conclusions are wrong to retract any one of them you please, provided only you do me the favour (*μοι*) to observe just one thing.

Pol. What thing do you mean?

Soc. To keep that discursive style of yours in check, Polus, which you made the attempt to indulge in at first.

Pol. How? Mayn't I be allowed to say as much as I please?

Soc. It would indeed be hard upon you, my admirable friend, if you were to have come to Athens, where there is the greatest freedom of speech in all Greece, and then *you* were to be the only person there who was debarred from it. But just set my case against yours. If you make a long speech and refuse to reply to my questions, wouldn't it be equally hard upon me not to be allowed to go away and not listen to you? No, no, if you have any regard for the argu- 462
ment we have been holding and want to set it right again, as I said just now take back any thing you please, and in your turn questioning and questioned, like myself and Gorgias, refute or submit to refutation. For you claim to be acquainted with all that Gorgias knows, I believe, don't you?

Pol. Yes to be sure I do.

Soc. Then I suppose you like him invite people on all occasions to put any question to you they like as one that knows how to find an answer?

Pol. No doubt I do.

Soc. Well then *now*, either put the questions or answer them, whichever you like.

c. 17 *Pol.* Well, so I will. Answer me then, Socrates. Since you seem to think that Gorgias is at a loss about rhetoric, what do you say it is yourself?

Soc. Do you ask me what art I say it is?

Pol. Yes I do.

Soc. None at all, it seems to me, Polus, to tell you the exact truth.

Pol. Well what do you take rhetoric to be then?

Soc. A thing which you tell us in the work that I lately read gave rise to art.

Pol. What *thing* do you mean?

Soc. I mean a kind of acquired habit (or 'routine,' *Cousin*).

Pol. So you take rhetoric to be an acquired habit?

Soc. Yes I do—if you have no particular objection.

Pol. A habit of what?

Soc. Of the production of a sort of gratification and pleasure.

Pol. Well and don't you think rhetoric a very fine thing, to be able to oblige one's fellow creatures?

Soc. Hallo, Polus, have I told you yet *what* I say it is, that you think yourself entitled to ask what follows that, whether I don't think it very fine?

Pol. Why, haven't you told me that you call it a sort of habit?

Soc. Will you please then, since you set such a high value on 'obliging,' to *oblige* me in a trifling matter?

Pol. To be sure I will.

Soc. Ask me now what art I take cookery to be.

Pol. I ask you then, what art is cookery?

Soc. None at all, Polus.

Pol. Well what is it? tell us.

Soc. I tell you then, a sort of habit.

Pol. Of what? let us hear.

Soc. What *I* say is, of the production of gratification and pleasure, Polus.

Pol. Do you mean to say then that cookery and rhetoric are the same thing?

Soc. Oh dear no, but a branch of the same kind of pursuit.

Pol. What pursuit do you mean?

Soc. I fear it may be somewhat rude to say the truth: for on Gorgias' account I am reluctant to speak out, for fear he should suppose that I am satirizing his professional pursuits. At the same time whether this is the kind of rhetoric 463 that Gorgias practises, I really don't know; for in fact from our argument just now we arrived at no distinct notion of his views on this matter. But what *I* mean by rhetoric is a branch of a particular set of things which have nothing 'fine' about them at all.

Gor. What is it, Socrates, pray let us know; don't hesitate on my account.

Soc. It seems to me then, Gorgias, to be a sort of pur- c. 18
sueit not scientific at all, but of a shrewd and bold spirit, quick and clever in its dealings with the world. And the sum and substance of it I call flattery [coaxing or wheedling]. Amongst a great number of branches of this kind of study one in particular I take to be cookery: which has indeed the appearance of an art, but according to my view is no art, but a habit and a knack. Of this I call the art of rhetoric a branch, as well as that of dressing and adorning oneself and of sophistic, four branches of it applied to four varieties of things. If then Polus wishes to make any inquiry, let him do so: for he has not yet heard which sort of branch of flattery I pronounce rhetoric to be; but without observing that I have not yet answered that question, he goes on to ask further whether I don't think it a very fine thing. But I wont answer him whether I think rhetoric a fine thing or a foul one until I have first made answer what it is. For it is not fair, Polus: but if you want to learn (what my opinion is),

ask me what kind of branch of flattery I pronounce rhetoric to be.

Pol. I ask you then, and do you answer me, what kind of branch?

Soc. I wonder whether you will understand me when I *do* answer. Rhetoric is according to my view the unreal image (counterfeit presentment) of a branch of Politics.

Pol. Well then, do you say it is a fine thing or a foul one?

Soc. A foul one, I should say, for all bad things I call foul; since I *must* answer you as though you already understood my meaning.

Gor. No upon my word, Socrates; why I myself don't understand what you say either.

Soc. Like enough, Gorgias, for I have not yet explained myself distinctly; but Polus (Colt) here is so young and hot.

Gor. Well never mind him; but tell *me* what you mean by saying that rhetoric is the unreal image of a branch of Politics.

Soc. Well I will try to tell you what rhetoric appears to me to be: and if I am wrong Polus here will refute me. There is such a thing I presume as what you call body and soul?

464 *Gor.* Of course there is.

Soc. And in these again you believe that there is a good condition of each?

Gor. To be sure I do.

Soc. And again, an apparent but not real good condition? Take a case like the following: there are many that appear to have their bodies in good condition in whom it would not be easy for any one but a physician or one of your professors of gymnastics to discover that they are not so.

Gor. Quite true.

Soc. Something of this sort I say there is in body and in soul, and that is what makes the body and the soul *seem*

to be in good condition when they are not really so nevertheless.

Gor. It is so.

Soc. Let me see then if I can explain my meaning more clearly to you. Two classes of things have I say two arts corresponding to them; that which has the soul under its direction (or, that which is applied to the soul) I call Politics; and though for that which has charge of the body I can't find you just on the spur of the moment any single name, still the care of the body is one and has as I reckon two divisions, the one gymnastics and the other medicine. In Politics against gymnastics I set legislation, and as the counterpart to medicine I assign justice. In each of these pairs, however, medicine and gymnastics, justice and legislation, there is a good deal of intercommunication seeing that they deal severally with the same objects; yet still there is a difference between them. Well then of these four, which always have the highest good the one of the body the other of the soul in view in their treatment of them, the art of flattery takes note, and I don't say with a full knowledge but by a shrewd guess divides herself into four branches, and then smuggling herself into the guise of each of those other divisions pretends to be that of which she has assumed the semblance, and cares not one jot for what is best, but with the bait of what is most agreeable for the moment angles for folly and deludes it to such a degree as to get the credit of being something of the highest value. And so I say cookery has assumed the disguise of medicine, and pretends to the knowledge of the kinds of food that are best for the body, so that if a cook and a physician had to go through a contest before a set of boys, or men as silly as boys, to decide which of the two understood the subject of good and bad kinds of food, the physician or the cook, the physician would die of starvation. Now I call it flattery, and I say that such a thing as this is base and contemptible, Polus—for now I am addressing you—because it aims solely at what is

agreeable without considering what is best : and an art I do *not* call it but a habit, because it can render no account of the exact nature of the things which it applies, and so cannot tell the cause of any of them. But to nothing which is irrational can I give the name of art. If you contest any of
 c. 20 these points I am ready to stand an examination. Now as I say cookery has taken the disguise of medicine, and the art of dressing in just the same way that of gymnastics, a knavish and cozening and ignoble and illiberal art, cheating people so by the aid of forms and colours and polish and dress as to make them in the endeavour to assume a borrowed beauty neglect the native and genuine beauty which comes by gymnastics. However not to be tedious, I will state the thing like the geometers—for by this time I dare say you will be prepared to follow me—as the art of dressing is to gymnastics so is cooking to medicine : or rather thus, as dressing to gymnastics so is sophistic to legislation, and as cookery to medicine so is rhetoric to justice¹. However as I say, though such is the natural distinction between them, still, as these arts are so nearly allied, sophists and rhetoricians and the things with which they deal are a good deal jumbled

¹ The 'justice' here spoken of is the *principle* of *δίκη ἐπανορθωτική* or *διορθωτική*, remedial or corrective, one of the branches of Political Justice, which governs the decisions of courts of law; see c. 34. p. 478 A. It redresses the disturbed balance of society, heals the diseases which injustice and wrong have introduced into the body corporate, and so corresponds to medicine which operates similarly upon the individual human body. Of this rhetoric, which pretends to maintain the right and redress wrong, is the spurious and counterfeit copy, the unreal unsubstantial image (*εἰδωλον*).

The other branch of Political Justice is the distributive kind, *δίκη διανεμητική*. This assigns to every citizen his due position and rights, functions and authority, in the society of which he is a member. A third variety is distinguished from these two by the author of the fifth book of the *Nicomachean Ethics*. This he calls *τὸ ἀντιπεποθὸς ἐν ταῖς ἀλλακτικαῖς κωνωναῖς*, c. 8. It establishes a due proportion in the transactions of barter or exchange, or more generally, is the regulating and controlling principle of commercial morality. It seems to me to be a mere variety of 'distributive justice' understood in its widest sense.

together, and they don't know either themselves what to make of their own profession, or any body else what to make of them. For in fact, if it were not the soul that had the control of the body, but the latter were its own master, and so cookery and medicine were not surveyed and distinguished by it, but the body itself were the judge, weighing and estimating them by the gratifications that they procure for it, the state of things described in the saying of Anaxagoras would prevail far and wide, my dear Polus—for you understand these things—every thing would be jumbled together in a mass (there would be an universal chaos) and things sanitary and wholesome and the cook's sauces and condiments undistinguishable. You have heard now what I affirm rhetoric to be, the counterpart of cookery in the soul corresponding to that in the body. Now perhaps I have done rather an odd thing in expatiating at such length myself when I refused to let *you* make a long speech. However I deserve to be excused; for when I spoke in short sentences you didn't understand me, nor could you make any use of the answer I then gave you, but required a detailed explanation. Now if I on my side don't know what to make of any of your answers you may expatiate in your 466 turn, but if I can make good use of it, let me do so : for that is fair. And now if you can make any thing of this answer of mine, there it is for you.

Pol. What say you then? Do you take rhetoric to be a c. 21 sort of flattery?

Soc. Nay I said a *branch* of flattery. Why, have you no better memory at *your* age, Polus? What will you do by and by?

Pol. Then is it your opinion that good orators are esteemed worthless in their cities as flatterers?

Soc. Is that a question you are asking, or the beginning of a speech?

Pol. A question to be sure.

Soc. Then I don't think they are *esteemed* at all.

Pol. How not esteemed? Are they not all-powerful in their cities?

Soc. No, if at least you mean that power is a good to its possessor.

Pol. Why of course I mean that.

Soc. Then it seems to me that the orators have of all citizens the least power.

Pol. How? Don't they like tyrants put to death any one they please, or strip of his property or banish from their cities any one they think proper?

Soc. By the dog, Polus, I am really quite in doubt at every word you say whether you are making an assertion yourself and delivering your own opinion, or asking me a question.

Pol. Why I'm asking you to be sure.

Soc. Very good, my friend: and then do you ask me two questions at once?

Pol. How two?

Soc. Didn't you say just now something of this sort, that the orators put any one they please to death, like the tyrants, or rob of his money, or banish from their cities any one they think proper?

Pol. Yes I did.

c. 22 *Soc.* I tell you then that these questions of yours are two, and I will give you an answer to both. For I maintain, Polus, that the orators and the tyrants have the smallest possible power in their cities, as I said just now; for they don't do anything at all that they desire, so to speak: however I admit that they do anything that they think best.

Pol. Well and isn't that great power?

Soc. No, at least according to what Polus says.

Pol. I say no? I beg your pardon, I say yes.

Soc. No by—indeed you don't, for you said that great power is a good to its possessor.

Pol. Well and so I do.

Soc. Then do you think it a good for a man to do any-

thing he thinks best, supposing he has no understanding? and do you call *that* great power?

Pol. No not I.

Soc. Then you must prove to me that the orators are men of understanding, and that rhetoric is an art, and not a mere flattery, and so refute me. But if you leave me unrefuted, your orators who do what they think proper in their cities, and your tyrants, will find no advantage in *that*, if indeed power is as you say a good, and doing what one thinks fit without understanding you too admit to be an evil. You do, don't you?

Pol. Yes I do.

Soc. Then how can orators or tyrants have great power in their cities unless Socrates be forced by Polus to own that they do what they desire?

Pol. Here's a fellow—

Soc. I say they don't do what they desire—There now, refute me.

Pol. Didn't you admit just before that they do what they think best?

Soc. Well and so I do now.

Pol. Why then they do what they desire.

Soc. I say no.

Pol. What? whilst they do what they think fit?

Soc. Yes.

Pol. This is abominable, Socrates, quite monstrous.

Soc. Don't be abusive, most polite Polus, to address you in your own style¹: but if you have any question to put to me prove that I am wrong, or if not answer yourself.

¹ Polus' 'own style' has been already partially exemplified at p. 448 c. He was a disciple of Gorgias and had adopted the rhetorical figures introduced by the other into prose composition, which he disfigured by the lavish excess to which he indulged in them. See further on this subject, *Journal of Classical and Sacred Philology*, No. VII. pp. 69—72, where these figures are classified and illustrated. ὦ λῆστε Πῶλε is referred by Plato to the class *καρλίωσις*, as we may see from the similar example in *Symp.* 185 c, where Πανταρίου *καυ-*

Pol. Well I will answer, to find out what really you do mean.

c. 23 *Soc.* Is it your opinion then that people in doing any thing on any occasion desire simply what they do [i.e. the means to their end] or that which is the object of their doing what they do? As in the case of patients for instance who take medicine prescribed by the physicians, think you they desire merely what they do, to swallow the medicine and suffer pain, or that, health to wit, which is the object of their taking it?

Pol. Plainly health, which is the object in taking it.

Soc. And so with foreign merchants or those that are engaged in any other branch of trade, what they *desire* is not what they are habitually doing; for who desires to incur all the risk and trouble of a voyage? what they desire I presume is that which is the object of their voyage, wealth: for it is for wealth they undertake it.

Pol. Yes certainly.

Soc. And isn't the same true in all other cases? If a man do any thing for an object, he doesn't desire that which he does, but that which was his object in doing it?

Pol. Yes.

Soc. Well then, is there any thing existing that is not either good or bad or indifferent, neither good nor bad?

Pol. Most decidedly, nothing, Socrates.

Soc. Well do you call wisdom and health and wealth and every thing else of that sort good, and the opposites of these bad?

Pol. Yes I do.

Soc. And by things neither good nor bad do you mean
468 things like these, such as sometimes partake of the nature of the good and sometimes of the bad and sometimes of neither, as sitting for example and walking and running and sailing,

σαμένου is afterwards described as *ἴσα λέγειν*. It would however usually be regarded as a case of *παρομοίωσις* or *παρήχησις*, or the subordinate variety *παρονομασία*.

or again things such as stones or sticks or any thing else of that sort? These are what you mean, are they not? or is there any thing else to which you give the name of neither good nor bad?

Pol. No, these are what I mean.

Soc. Do people then do these indifferent (intermediate) things when they do them for the sake of the good, or the good for the sake of the indifferent?

Pol. The indifferent for the sake of the good to be sure.

Soc. Consequently it is in pursuit of good that we either walk, when we do walk, because we think it better for us, or, the contrary, stand still, when we do stand, with the same object, the good, don't we?

Pol. Yes.

Soc. And so likewise don't we put a man to death if we ever do such a thing, or banish him, or deprive him of his property, because we think it is better for us to do it than not?

Pol. Yes no doubt.

Soc. So then it is for the sake of what is good that people do all these things that do them.

Pol. I allow it.

Soc. Well but didn't we admit that when we do things **c. 24** with an object in view we don't desire those things, but that which is the object of our doing them?

Pol. Quite so.

Soc. Then we don't desire to massacre people or expel them from our cities or rob them of their money merely in the abstract, but if these things are advantageous we desire to do them, but if mischievous we do not. For we desire what is good, as you allow; but what is neither good nor bad we do not desire, nor what is bad, do we? Do you think what I say is true, Polus, or not? [*a pause*]. Why don't you answer?

Pol. (*Sulkily.*) True.

Soc. Well then admitting this, if a man puts any one to

death or expels him from the city or strips him of his property, whether he be tyrant or orator that does it, because he thinks it is better for him, when it is really worse, *he* I presume does what he thinks fit, doesn't he?

Pol. Yes.

Soc. But does he also do what he desires, supposing these things to be bad for him?—Why don't you answer?

Pol. No, I don't think he does what he desires.

Soc. Can it be said then that such an one has great power in that city, if great power means something good according to your admission?

Pol. It can not.

Soc. I spoke the truth then in saying that it *is* possible for a man to do what he pleases in a city and yet not to have great power nor to do what he desires.

Pol. Just as if you, Socrates, would not choose to have the liberty of doing what you please in your city rather than not, and don't envy a man when you see one that has either put some one to death or robbed or imprisoned him because he thought proper to do so.

Soc. Do you mean justly or unjustly?

469 *Pol.* Whichever it be, is it not enviable either way?

Soc. Hush, hush, Polus.

Pol. Why so?

Soc. Because we musn't envy the unenviable nor the miserable, but pity them.

Pol. What? Is this your opinion of the condition of the men that I speak of?

Soc. How can it be otherwise?

Pol. Then do you think a man who puts any one he pleases to death if he does it justly is wretched and an object of pity?

Soc. No I don't; but not enviable either.

Pol. Didn't you say just now that he was wretched?

Soc. Nay I said if he did it unjustly, my friend, and an object of pity into the bargain; but if justly, unenviable.

Pol. Oh no doubt a man who is put to death unjustly is pitiable and wretched.

Soc. Less so than the author of his death, Polus, and less so than one who deserves to die.

Pol. In what way pray, Socrates?

Soc. In this, that to do wrong is the greatest of all evils.

Pol. What? *this* the greatest? is not to suffer wrong a greater?

Soc. No by no means.

Pol. Would you prefer then suffering wrong to doing it?

Soc. I should *prefer* neither for my own part; but if I were obliged either to do wrong or to suffer it I should choose suffering rather than doing it.

Pol. Then I suppose you wouldn't accept despotic power?

Soc. No, if you mean by despotic power the same as I do.

Pol. Well *I* mean what I said just now, to have the liberty of doing anything one pleases in one's city, the power of death or banishment or, in short, doing anything according to one's own will and pleasure.

Soc. My worthy friend, let me tell you something and c. 25 then when it comes to your turn to speak you may criticise it. If in a crowded market¹ I were to take a dagger under my arm, and whisper to you, Polus, I have just come into possession of quite a despotic power, perfectly amazing; for if I think fit that any one of those men that you see there should die this instant, he'll be a dead man, any one of them I please; or if it seems to me that any one of them ought to have his head broken, it'll be broken on the spot, or to have his coat torn in two, it'll be done: so great is my power in this city— If I say on finding you incredulous I were to show you

¹ *ἐν ἀγῶρᾳ πληθούσῃ* is not used here as a note of time to signify the forenoon; but, as in Thuc. VIII. 92, it denotes simply the crowded state of the market-place. See Arnold and Poppo's *Notes*.

my dagger, you would say probably when you saw it, why, Socrates, at this rate every body would have great power, for in this fashion any house too you please might be set on fire, aye and the Athenian docks as well and their men of war and all their other vessels public as well as private. But surely *this* is not the meaning of having great power, to do anything one pleases. Do you think it is?

Pol. No certainly not, in that way.

470 *Soc.* Can you tell me then why you disapprove of power of this kind?

Pol. Yes I can.

Soc. Why is it then? say.

Pol. Because punishment is the inevitable consequence of doing such things as that.

Soc. And is not punishment a bad thing?

Pol. To be sure it is.

Soc. And so, my fine fellow, you have come round again to the opinion that great power is a good provided the doing what one pleases be accompanied by some advantage in doing it, and that this alone really is great power; otherwise it is a bad thing and mere weakness. And next let us consider *this* point. We admit, don't we, that it is sometimes better to do such things as we were just speaking of, to put men to death or banish them or deprive them of their property, and sometimes not?

Pol. Yes certainly.

Soc. Well then, it seems, you and I agree in admitting this.

Pol. Yes.

Soc. Then when do you say it is better to do them? Tell me where you draw your line?

Pol. Nay, Socrates, do *you* answer this same question yourself.

Soc. Well then I say, Polus, if you prefer hearing it from me, that it is better to do these things when they are done justly, and when unjustly then worse.

Pol. Very hard¹ indeed it is to refute you, Socrates. c. 26
Why, couldn't any child prove you to be in the wrong?

Soc. Then I shall be very much obliged to the child, and equally so to you, if you refute me and deliver me from my absurdity. Pray now don't shrink from the trouble of doing a friend a kindness, but refute me.

Pol. Why really, Socrates, there is no occasion to go back to stories of old times to refute you; for the events of only the other day² are quite enough to prove you in the wrong and to show that many wrong doers are happy.

Soc. What are they?

Pol. You see I presume that the famous Archelaus son of Perdiccas is king of Macedonia?

Soc. Well if I don't, I *hear* of it at any rate.

Pol. Do you take him then to be happy or wretched?

Soc. I don't know, Polus, for I haven't the honour of his acquaintance.

Pol. How's that? Do you mean to say you could dis-

¹ Polus' irony is here directed against the opinion which prevailed amongst the friends of Socrates that it was impossible to refute him.

² 'Only the other day' really means eight years ago. The dramatic date of the dialogue is fixed by the passage 473 E, *πέρουσι βουλευέειν λαχῶν κ.τ.λ.* in the year 405 B.C., and Archelaus usurped the throne of Macedonia in 413. Stallbaum's arguments (*Introd.* pp. 56—72) are quite conclusive in favour of the year 405, and against an earlier date. He is also very fairly successful in explaining away all the historical references, such as the present passage, which seem to clash with this supposition. But it may reasonably be doubted whether it is worth while to bestow any great amount of pains and labour upon such an attempt. All great writers of fiction such as Shakespeare and Walter Scott allow themselves great licence in this particular; and I strongly suspect that Plato was no more careful to avoid such lapses than his literary brethren. This seems to me to be proved by the great difficulty which is almost invariably found in fixing the dramatic date of any of his dialogues, arising partly from the numerous inconsistencies and historical inaccuracies which we seldom fail to find in them. These most easily escape detection on the part of the author and the reader, both of them having their attention occupied with more important matters; a fact which seems to show how slight and excusable such blemishes are in a work of fiction; at all events, how little they interfere with the real interest of this kind of composition.

cover it by making his acquaintance? Don't you know without that at once (or, instinctively, Heind.) that he is happy?

Soc. No by my faith I don't.

Pol. Then it's plain, Socrates, that you will say that you don't *know* that the great king is happy either.

Soc. And if I do I shall say the truth: for I don't know what is his condition in respect of his mental cultivation and moral character¹.

Pol. How then? does happiness consist solely in this?

Soc. Yes according to my view, Polus: for an honest man or woman I say is happy, and one that is unjust and wicked miserable.

471 *Pol.* Then according to your account the great Archelaus is miserable?

Soc. Yes, my friend, if he is unjust.

Pol. Why of course, how can he be otherwise? He had no claim whatever to the throne which he now occupies, being the son of a woman (Simiche) who was the slave of Perdiccas' brother Alcetas, and in strict justice was Alcetas' slave; and if he had desired to do what was right he would have been the slave of Alcetas and happy according to your account. But now it is really amazing how miserable he has become, for he has done the most enormous wrong. First of all he invited this very same master and uncle of his to his court as if he meant to restore to him the dominions of which Perdiccas robbed him, and after entertaining him and his son Alexander, his own cousin, about the same age as himself, and making them drunk, he stowed them away in a carriage, carried them off by night, murdered them both and made away with them. And after all this wickedness he never discovered that he had made himself the most miserable of men, nor repented of what he had done, but he did not choose to make himself happy by bringing up as he was bound to do his brother the legitimate son of Perdiccas, a

¹ Cicero, *Tusc. Disp.* v. 12, renders this, *quam sit doctus, quam vir bonus.*

boy of about seven years old, to whom the throne came by right, and restoring to him his kingdom, but shortly after he threw him into a well and drowned him, and then told his mother Cleopatra that he had tumbled in as he was running after a goose and so come by his death. Doubtless therefore now as he is the greatest criminal in Macedonia he is the most miserable of all the Macedonians, and not the happiest, and I dare say there are a good many people in Athens; with yourself at their head, who would rather take the place of any other Macedonian whatever than that of Archelaus.

Soc. I complimented you before at the beginning of our c. 27 conversation, Polus, upon your being as it seemed to me so admirably instructed in the art of rhetoric, though at the same time I thought you had somewhat neglected the dialogue. And so now, this is the famous argument, is it, with which any child could refute me? and this is the sort of talk by which in your opinion I now stand convicted when I assert that the wrong doer is not happy? How can that be, my good friend? And yet I don't admit a single word you say.

Pol. No because you won't; for I'm sure you think as I say.

Soc. My dear creature, that's because you try to refute me in rhetorical fashion, as they fancy they do in the law courts. For there indeed the one party is supposed to refute the other when he brings forward a number of respectable witnesses in support of any statements he happens to make, whilst the opponent produces only a single one or none at all. But refutation of this kind is absolutely worthless for the purpose of 472 ascertaining the truth: for it may even happen sometimes that a man may be overborne by the false witness of numbers and apparent respectability. And now if you want to bring forward *witnesses* to prove that I am wrong on the points you speak of, you will find nearly every body, Athenians and foreigners, agree with you. You may have for witnesses Nicias, if you please, son of Niceratus with his brothers,

whose tripods are standing in a row in the Dionysium, or if you please Aristocrates son of Scellias, the donor of that splendid offering again at Delphi¹, or if you like, the whole house of Pericles or any other family you choose to select out of those of this place. But I, alone as I stand here, refuse to admit it: for you can't convince me, but you try by bringing forward a number of false witnesses against me to dispossess me of my substance² and of the truth. But for my part, if I don't produce yourself for one as a witness in confirmation of what I say, I think I have effected nothing of the least importance in advancing the object of our discussion; nor you either I think, unless I singly and alone bear witness in your favour, and you leave all the rest of those people entirely out of the question. This then is one kind of proof, as you and a good many others besides you imagine it to be; and there is also another which I on my side deem to be such. Let us then compare them together and see if we shall find any difference between them. For in truth the

¹ This is one of the passages which has been supposed to disagree with the date 405 B.C. assigned as the dramatic date of the dialogue: and even Schleiermacher who adopts it conceives that Nicias and Aristocrates, who died in 413 and 406 respectively, are spoken of as living witnesses, and that this is therefore an anachronism. I have already expressed my belief that Plato thought little of historical consistency in writing his dialogues; but in the present instance we are not driven to any such supposition. Ast has pointed out that it is the evidence of the *monuments* that is here appealed to. *They testify* to the wealth and splendour of those who dedicated them, and also to their opinion upon the advantages of such things by the desire they evince for the perpetuation of the memory of them. They are "the bricks" in short "that be alive to this day to testify" to their regard for worldly advantages. In fact, unless this *were* Plato's meaning, there could be no conceivable reason for mentioning their offerings at all.

² This is what I may call the 'received' translation of *ὀψία*, which of course has a double meaning 'property' and 'reality' or real truth. It is open however to the objection of being too technical in its philosophical sense. The Aristotelian 'substance' was unknown to the Platonic terminology. I believe the lawyers have a word 'realty' or 'realities,' used as an alternative for real property. If so, this I think would render the original better, as coming much nearer to the Platonic conception of *ὀψία*; though from its technicality I have hesitated to introduce it into the text.

subject we are debating is one of by no means slight importance, nay it is one might almost say that on which to know is noblest and not to know most disgraceful: for what it all amounts to is, either to know or to be ignorant who is a happy man and who is not. First of all for instance, to take the particular point we are now discussing, *you* conceive it possible for a man to be happy in wrong doing and in wickedness, supposing that you think Archelaus to be a wicked man and yet happy. Are we not to suppose that this is your opinion?

Pol. Yes certainly.

Soc. And I say it's impossible. Here is one point on c. 28 which we differ. So far so good. But will then a man be happy in wrong doing if he be overtaken by justice and punishment?

Pol. No, by no means; in that case he would be most miserable.

Soc. But if the wrong doer chance to escape justice, according to your account he will be happy?

Pol. That is my view.

Soc. And in my opinion, Polus, the wrong doer and the wicked man is in every case miserable; more miserable however if he escape justice and evade punishment for his iniquity, but less miserable if he pay the penalty of his crimes, and be duly punished by Gods and men.

Pol. A strange paradox this, Socrates, that you under- 473 take to maintain.

Soc. Aye and I will try to make you too maintain the same, my friend, for as a friend I regard you. So now, the points on which we differ are these. Look at them yourself. I told you I believe before that doing wrong is worse than suffering it.

Pol. No doubt you did.

Soc. You on the contrary thought suffering it worse.

Pol. Yes.

Soc. And *I* said that the wrong doers are miserable, and you refuted me.

Pol. Yes, egad, that I did.

Soc. At least in your own opinion, Polus.

Pol. And my opinion is right I should rather think.

Soc. But you said on the other hand that the wicked are happy, provided they escape justice.

Pol. No doubt of it.

Soc. And *I* say they are most miserable, and those that are brought to justice less so. Will you refute that too?

Pol. Why that's still harder to refute than the other, Socrates.

Soc. Not only so, Polus, but impossible; for the truth can never be refuted.

Pol. How say you? If a man be detected in a criminal design of making himself absolute, and thereupon be put to the torture or mutilated or have his eyes burnt out; or, after having been himself subjected to every possible variety of the severest torments and been forced to look on whilst his own children and wife endured the like, then last of all be crucified or burnt to death in a coat of pitch—will *he* be a happier man than if he were to escape and make himself tyrant, and pass his life as supreme ruler in his city in doing whatsoever he pleases, an object of envy and congratulation to his own citizens and all foreigners to boot? Is *this* what you say it is impossible to refute?

c. 29 *Soc.* Now you are trying to scare me with bugbears, my brave Polus, instead of refuting me; just now you were citing witnesses against me. However never mind that, but just refresh my memory a little: "in a *criminal* design upon the tyranny," you said?

Pol. Yes I did.

Soc. Then neither of them will ever be *happier* than the other, neither he that has unjustly compassed the tyranny nor he that is punished for his misdeeds: for of two miserable men neither can be said to be *happier*: still the *more*

miserable is he that remains undiscovered and secures himself on the throne. [*Polus smiles.*] What does that mean, Polus? Are you laughing? Here's another new kind of refutation; when an assertion is made to refute it by grinning instead of argument¹.

Pol. Don't you think, Socrates, you are confuted already, when you assert such things as no human being would maintain? Only ask any one of the company there.

Soc. Polus, I am not one of your public men; in fact only last year when I was elected member of the Council, and, my tribe having the Presidency, it became my duty to put a question to the vote, I made myself ridiculous by not knowing how to do it². So don't ask me again this time 474

¹ "And coxcombs vanquish Berkeley with a grin."—Pope.

² This is the passage by which the dramatic date of the dialogue is determined. It is so precise and positive that there can I think be no doubt that Plato really intended it as a mark of time: and whereas the chronological indications and allusions which have suggested an earlier period can all be made very fairly to harmonise with this by merely allowing a very reasonable latitude in the use of indefinite expressions, such as *νεωστὶ* and *ἐχθὲς καὶ πρόην*, the definite and precise *πέρυσσι* absolutely precludes any other date than the year 405 B.C.—except upon the most improbable supposition that Socrates twice held the office of *ἐπιστάτης*: a notion which to say nothing of other arguments, is directly contradicted by Socrates' own assertion, *Apol. Socr.* 32 B, that he never engaged in public business but once in his life.

The real circumstances of the case are related by Xenophon, *Hellen.* I. 7. 15, and alluded to *Memor.* I. i. 18, and Plat. *Apol. Socr.* 32 B. Mr Grote, *Hist. of Greece*, Part II. ch. lxiv. Vol. VIII. p. 271, note, expresses a doubt as to the correctness of Xenophon's statement in the *Memorabilia* that Socrates was *ἐπιστάτης* on this occasion. He omits however to refer to the present passage of the *Gorgias*, where the use of the technical term *ἐπιψηφίζειν*, expressive of the special function of the *ἐπιστάτης*, seems fully to confirm Xenophon's statement and to remove all doubt upon the point.

The reason here assigned by Socrates for not putting the illegal question to the vote in the memorable trial of the generals after Arginusæ, and his attributing to ignorance what was in fact an act of heroic firmness and resolution which has few, if any, parallels in history, is a most curious and striking example of that form of 'dissimulation' which as Aristotle tells us, *Eth. Nic.* IV. 7. 14, from Socrates' constant use of it, came to be distinguished as *εἰρωνεία* in a proper or special use, the 'mock humility' or 'self-disparagement' in which in fact Socrates' 'irony' mainly consists. In another aspect, it is hardly

to take the votes of the present company; but, as I said just now, if you have no better argument than those you have used hand the matter over to me in my turn, and try the sort of proof that *I* think ought to be employed. For I know how to produce one witness in support of my assertions, and that is the man himself with whom I am arguing, the many I utterly disregard; and there is one whose vote I know how to take, whilst to the multitude I have nothing whatever to say. See then whether you will consent to submit to be refuted in your turn by answering my questions. For I think, you know, that you and I and every one else believes doing wrong to be worse than suffering it, and escaping punishment for one's transgressions worse than enduring it.

Pol. And I, that neither I nor anyone else in the world believes it. For would *you* rather suffer wrong than do it?

Soc. Yes, and so would you and every body else.

Pol. You are quite wrong; on the contrary neither I nor you nor any one else.

Soc. Then will you answer?

Pol. By all means, for in fact I am quite curious to know what you can possibly have to say.

Soc. Then tell me that you *may* know, just as if I was beginning my questions all over again, which of the two seems to you to be worse, Polus, doing or suffering wrong?

Pol. Suffering it to be sure.

Soc. But what say you to 'fouler'?' Which of the two is *that*?

distinguishable from that form of pleasantry which now passes under the name of 'quizzing.'

¹ In the absence of any English words in common use which convey both the physical and the moral application of *καλόν* and *αισχρόν*, I have taken refuge in translating them by the somewhat poetical terms 'fair' and 'foul.' Dr Whewell renders them by 'handsome' and 'ugly.' The difficulty of translating them lies in this; that whilst sometimes the one sense and sometimes the other is uppermost in the originals, and this would lead us to choose different words to express them, yet the argument frequently obliges us to retain the same throughout, because it would be obscured or rendered unmeaning by

Pol. Wrong doing.

Soc. And so likewise worse, if fouler.

c. 30

Pol. No by no means.

Soc. Oh, I understand: you think fair and good and bad and foul are not the same things.

Pol. Certainly not.

Soc. But what of this? All fair things, as bodies and colours and figures and sounds and pursuits—is it with reference to no standard at all that you call them fair every time you use the word? for instance first, when you apply the term fair to fair bodies is it not either in respect of their use, with reference, that is, to the purpose which any of them may be made to serve; or in respect of some kind of pleasure, when they give delight to those that look at them in the act of contemplation? Have you any account to give beyond this of beauty of body?

Pol. None.

Soc. And so with everything else in the same way, figures and colours, is it in virtue of some pleasure or advantage or both that you term them fair?

Pol. Yes it is.

Soc. And with sounds too and every thing in music, is it not just the same?

Pol. Yes.

Soc. And moreover in all that belongs to laws and habits of life, their beauty I presume is to be found nowhere beyond these limits, that is to say, either the utility or the pleasure that is in them, or both.

Pol. No, I think not.

Soc. And so again with the beauty of studies is it not 475 the same?

Pol. Yes no doubt; and this time, Socrates, I do really

changing them: and hence we are reduced to the alternative of either marring the argument or adopting some unfamiliar terms to represent two of the commonest words in the Greek language.

like your definition, when you define what is fair by pleasure and good.

Soc. And may I in the same way define what is foul by the opposites, pain and evil?

Pol. Of course you may.

Soc. So then when of two fair things one is fairer, it is so because it surpasses in one of these two (things) or both of them, either in pleasure or utility or both.

Pol. Certainly.

Soc. And when again of two foul things the one is fouler, it will be so by the excess either of pain or mischief. Is not that a necessary consequence?

Pol. Yes.

Soc. Come then, what was said just now about doing and suffering wrong? didn't you say that suffering wrong is worse, but doing it fouler?

Pol. I did.

Soc. Well then if doing wrong is fouler than suffering it, it is either more painful, and fouler by excess of pain, or of mischief or both? Does not this also necessarily follow?

Pol. Of course it does.

c. 31 *Soc.* First of all then let us consider whether doing wrong exceeds suffering it in pain, whether, that is, those that do wrong feel more pain than those that suffer it?

Pol. Oh no, Socrates, not *that*.

Soc. So then it is not in pain that it exceeds.

Pol. Certainly not.

Soc. And accordingly if not in pain, it cannot *now*¹ exceed in both.

Pol. It appears not.

Soc. It only remains then (that it exceed) in the other.

Pol. Yes.

Soc. In mischief.

¹ *ἔτι*, 'any longer, after this, as it might have done if this had not been the case.' Corresponding to *ἔτι* in affirmative sentences.

Pol. It seems so.

Soc. So it is because it exceeds in mischief that doing wrong is worse than suffering it.

Pol. Plainly so.

Soc. Is it not then admitted by the mass of mankind, as it was in fact by yourself a little while ago, that doing wrong is fouler than suffering it?

Pol. Yes.

Soc. And now it turns out to be worse.

Pol. It seems so.

Soc. Would *you* then prefer the greater evil and the greater deformity to that which is less? Don't hesitate to reply, Polus, it will do you no harm, but bravely submit yourself to the argument as to a physician, and answer yes or no to my question.

Pol. Well I should not prefer it, Socrates.

Soc. And would any one else in the world?

Pol. No I think not, as you put the case now.

Soc. Then I spoke the truth in saying that neither you nor I nor any one else in the world would prefer doing to suffering wrong; because it's worse.

Pol. So it appears.

Soc. You see then, Polus, that when the one mode of proof is brought into comparison with the other, there is no resemblance between them; but *you* have the assent of every one else except myself, whereas *I* am satisfied with your own assent and your own evidence single and alone, and I take 476 only your own vote and pay no sort of attention to the rest. And so let this be considered settled between us. And next let us examine the second question on which we differed; whether, namely, for a guilty man to be brought to justice is the greatest of all evils as you thought, or to escape it is a greater as was *my* opinion. Let us consider it thus. Do you call being brought to justice and being justly chastised for wrong doing the same thing?

Pol. Yes I do.

Soc. Can you deny that all just things are fair, in so far as they are just? Now consider well before you speak.

Pol. Well I do think so, Socrates.

c. 32 *Soc.* Then look at this again. When any one does an act, is it necessary that there should be a something acted upon by this agent?

Pol. Yes I think so.

Soc. And does that something *suffer* exactly what the agent *does*? and receive an impression of the same kind as the action of the agent? To explain my meaning by an example—when any one strikes a blow, something must necessarily be struck?

Pol. Just so.

Soc. And if the striker strikes hard or quick, the object struck is struck in the same way?

Pol. Yes.

Soc. Consequently the effect is of the same kind in the object struck as is the action in the striking agent?

Pol. To be sure.

Soc. Or again, when a man burns, something must of necessity be burnt?

Pol. Of course.

Soc. And if he burns severely or painfully, the object burnt must be burnt in the same way as the burning agent burns?

Pol. Yes certainly.

Soc. And so when a man cuts, the same rule applies, that is to say something is cut?

Pol. Yes.

Soc. And if the cut is large or deep or painful, the cut produced in the object cut is precisely of the same kind as the thing cutting cuts it?

Pol. So it appears.

Soc. Well then in a word, see if you admit universally the rule I just stated: the effect in the patient is of exactly the same kind as the action in the agent.

Pol. Well I do.

Soc. This then being admitted, is to be punished to suffer something or to do it?

Pol. To suffer of course, Socrates.

Soc. And that too by the hands of some agent?

Pol. No doubt of it, by the hands of him that inflicts the punishment.

Soc. But he that punishes aright punishes justly.

Pol. Yes.

Soc. And in doing that does he do what is just?

Pol. What is just.

Soc. And again one that atones for his crime by punishment suffers what is just?

Pol. So it appears.

Soc. And what is just I believe we have admitted to be fair?

Pol. Yes certainly.

Soc. Consequently of these two the one does what is fair, and the other, the man who is punished, suffers it.

Pol. Yes.

Soc. And so if fair then good, for that is either pleasant c. 33 or useful¹. 477

Pol. Of course.

Soc. So then one who is punished for his sins suffers what is good?

Pol. It seems so.

Soc. Then he receives a benefit?

Pol. Yes.

Soc. Is it that kind of benefit which I suspect? namely that his soul is improved if he is justly punished.

Pol. Yes probably.

Soc. Then is one that is brought to justice relieved from vice of soul?

Pol. Yes.

¹ By the definition, c. 30, 474, D, E.

Soc. And is not that the greatest of all evils that he is relieved from? Look at it in this way. In a man's pecuniary condition do you discern any other evil than poverty?

Pol. No, only poverty.

Soc. Or again in his bodily condition (constitution)? would you not say the evil is weakness and disease and ugliness and such like?

Pol. Yes I should.

Soc. And so in soul don't you believe that there is some inherent vice?

Pol. No doubt of it.

Soc. And don't you call this injustice and ignorance and cowardice and so forth?

Pol. To be sure.

Soc. So then in mind body and estate, these three, you have pointed out three several vices, poverty disease injustice?

Pol. Yes.

Soc. Then which of these kinds of vice is the foulest? Is it not injustice, or in a word the vice of the soul?

Pol. Yes by far.

Soc. And if foulest then likewise worst?

Pol. How mean you by that, Socrates?

Soc. This. It follows from our previous conclusions that what is most foul is so always by reason of its bringing with it either the greatest pain or bane or both.

Pol. Quite so.

Soc. And now we have just admitted injustice and in general vice of soul to be what is foulest?

Pol. We have no doubt.

Soc. So then it is either most painful, or in other words it is because it surpasses in painfulness that it is the foulest of all of them (*i. e.* the beforementioned kinds of vice), or banefulness or in both ways?

Pol. Necessarily.

Soc. Is then to be unjust and licentious and cowardly and ignorant more painful than poverty and sickness?

Pol. No I think not, Socrates, from what we have been saying.

Soc. Prodigious then must be the amount of banefulness and amazing the evil by which the soul's vice exceeds all the rest so as to make it the foulest of them all, since it is not by pain, according to your account.

Pol. So it appears.

Soc. But further, where the excess consists in the highest degree of banefulness that must I should think be the greatest of all evils.

Pol. Yes.

Soc. Injustice then and licentious indulgence and all the rest of the soul's vices are the greatest of all evils.

Pol. So it appears.

Soc. What is the art then that delivers us from poverty? c. 34
Is it not that of trading?

Pol. Yes.

Soc. And what from disease? Is it not the art of medicine?

Pol. Beyond all doubt.

Soc. And what from wickedness and injustice? If you 478
haven't an answer ready when the question is put in this way, look at it thus: Whither and to whom do we carry those whose bodies are diseased?

Pol. To the physicians, Socrates.

Soc. And whither do we send the evil-doers and licentious?

Pol. Before the judges do you mean?

Soc. To suffer for their crimes, isn't it?

Pol. Yes.

Soc. Is it not then by the application of a sort of justice that those chastise who chastise aright?

Pol. Plainly.

Soc. So then trading delivers us from poverty, medicine from disease, and justice from licentiousness and wickedness.

Pol. So it appears.

Soc. Which then is fairest of these?

Pol. What do you mean?

Soc. Trading, medicine, justice.

Pol. Justice, Socrates, is far superior.

Soc. So then, again, if it is fairest it produces either the greatest pleasure or profit or both? (recurring again to the definition).

Pol. Yes.

Soc. Well then, is medical treatment pleasant¹, and do those who submit themselves to such treatment like it?

Pol. No I should think not.

Soc. But it is beneficial, isn't it?

Pol. Yes.

Soc. Because the patient is rid of a great evil, and therefore it is well worth his while to undergo the pain and be well.

Pol. Of course it is.

Soc. Is this then the happiest condition for a man's body to be in, to be cured by medical treatment, or never to be ill at all?

Pol. Plainly never to be ill.

Soc. For, it seems, this is not what we said happiness consisted in, the deliverance from evil, but in never having had it at all.

Pol. It is so.

Soc. Again. Of two persons that have something wrong

¹ On the analogy here assumed (and so frequently repeated in this and other dialogues of Plato) between corrective justice and medicine, and the curative effect of the former upon the diseased human soul, Renouvier very justly remarks, *Manuel de Philosophie Ancienne*, II. 31: Quelquefois enfin Platon procède par simple comparaison et se laisse aller à une analogie douteuse: c'est ainsi qu'il compare celui qui *fait justice* au médecin, et que par suite il regarde le châtement comme un bien pour le coupable, sans examiner si le châtement améliore toujours, et si la peine est à l'injustice ce que la brûlure est à la plaie.

in body or soul which is the more miserable? The one who puts himself into the physician's hands and so gets rid of the mischief, or he who does not and retains it?

Pol. I should suppose the one who does not.

Soc. And didn't we say that to be punished for one's faults is a deliverance from the greatest evil, that is wickedness?

Pol. We did.

Soc. Because I suppose justice brings us under control and makes us juster, and so becomes the art by which wickedness is cured.

Pol. Yes.

Soc. Happiest of all then is he who is free from vice in his soul, seeing that we proved this to be the greatest of all evils.

Pol. Evidently.

Soc. And in the second degree, I should suppose, he who gets rid of it.

Pol. It seems so.

Soc. And he as we said is one who is admonished and rebuked and punished.

Pol. Yes.

Soc. Consequently one who retains injustice and is not delivered from it leads the worst kind of life.

Pol. So it appears.

Soc. And is not he that man who in the commission of the greatest crimes and the practice of the greatest iniquity 479 has managed to escape reproof and correction and punishment, as you say Archelaus has contrived to do, and the rest of your tyrants and orators and potentates?

Pol. It seems so.

Soc. Because, I should think, my excellent friend, what c. 35 men of this sort have contrived to do for themselves is very much the same as if a man afflicted with disease of the worst kind were to contrive to escape giving satisfaction to the physicians for the faults of his body, that is, undergoing



medical treatment, dreading like a child the pain inflicted by the cautery or the knife. Don't *you* think so yourself?

Pol. Yes I do.

Soc. In ignorance it would seem of the great advantage of health and soundness of body. For it appears from the conclusions at which we have just arrived that the conduct of those likewise who try to escape the penalty due to their transgressions is very much of this kind, Polus; they discern clearly enough its painfulness but are blind to its benefits, and are not aware how much more miserable than an unsound body¹ it is to be associated with a soul that is not sound but corrupt and unjust and unholy. And hence it is that they strain every nerve to escape punishment and deliverance from the direst evil, by providing themselves either with money or friends or the means of making themselves the most accomplished speakers. But if our conclusions are true, Polus, do you perceive what follows from our argument? or would you like us to reckon it all up together?

Pol. Yes if you don't object.

Soc. Is not one result then that injustice and wrong doing is the worst of evils?

Pol. So it appears.

Soc. And further it appeared that to suffer for one's faults is a deliverance from this evil?

Pol. It seems so.

Soc. And not to be punished for them is an abiding in us of the evil?

Pol. Yes.

Soc. Wrong doing then is second of evils in degree; but to do wrong and not suffer for it is the first and greatest of them all.

Pol. It seems so.

Soc. Well, my friend, was not this the point in dispute

¹ I have here intentionally preserved the false comparison of the original. Such blunders (exceptions we call them in the Classics) are as common in English as they are in Greek and Latin.

between us, that you pronounced Archelaus, the greatest of all criminals, happy because he enjoyed a complete immunity from punishment for his crimes, whilst I thought on the contrary that if any one, whether it be Archelaus or any one else in the world, pay no penalty for the wrong that he does he may justly be called preeminently miserable above all other men; and universally, that he that does wrong is more miserable than he that suffers it, and he that escapes the penalty for his transgressions than he that submits to it? Is not this what I said?

Pol. Yes.

Soc. Well then is it not now proved that what I said was true?

Pol. It appears so.

Soc. Very good. If then this is true, Polus, what is the great use of rhetoric? For, you know, it follows from our present conclusions that a man should himself keep the strictest watch over his own conduct to avoid all wrong, seeing that thereby he will bring on himself great evil; should he not?

Pol. Yes surely.

Soc. But if he do commit a wrong, either himself or any one else he cares for, he must go of his own accord to the place where he may most speedily be punished for it, to the judge as to his physician, striving earnestly that the disease of his iniquity may not become inveterate and so make the ulcer of his soul deep-seated and incurable. Or if not, what *are* we to say, Polus, supposing our former admissions are to stand? *Can* the one be brought into harmony with the other in any other way than this?

Pol. Why to be sure what else can we say, Socrates?

Soc. It follows then that for the purpose of a defence of crime, whether the guilt be in oneself or one's parents or friends or children or country, your rhetoric is of no use to us at all, Polus, unless indeed one were to suppose the very contrary, that it is a man's duty to accuse himself first of all,



and in the next degree his relations or any one else of his friends who may at any time be guilty of a wrong; and instead of concealing the wrong to bring it to light, that the offender may suffer the penalty and so be restored to health; and again to force oneself and others not to flinch out of cowardice, but submit bravely with closed eyes as it were to a physician to be cut or burned, in the pursuit of what is good and fair, not counting the pain; if his crimes have been worthy of stripes submitting to the rod, or if of bonds to imprisonment, or if of a fine to payment of the fine, or if of exile to banishment, or of death to die; himself the first to be his own accuser and of all his friends and relations as well, and to this end employing his rhetoric that they may all by the disclosure of their crimes be delivered from the greatest of all evils, which is unrighteousness. Is this to be our conclusion, or not, Polus?

Pol. A strange one, Socrates, it seems to me, but still perhaps you *do* find it (*σοι*) in agreement with what you said before.

Soc. Well then either the other must be disproved, or this is the inevitable result.

Pol. Yes, that is certainly so.

Soc. And conversely again, if on the contrary one were ever required to do a man a mischief, whether an enemy or any one else—provided only the wrong be not inflicted by the enemy on oneself, for that we must be very careful to avoid¹—but supposing the wrong to be done by him to

¹ This simple and innocent observation has been so strangely misinterpreted by Stallbaum, that a word of explanation may not be out of place. His note is "quoniam scilicet isto pacto necesse fuerit ut alter in iudicium vocetur (why? on the contrary, such a course would be inconsistent with the moral of the entire passage, which is, that if you want to punish an enemy you must let him alone and *not* bring him to justice), et justa poena afficiatur, quod beneficii loco habendum fuerit." The plain meaning is that in punishing our enemies we must take care not to punish ourselves. If we desire to inflict real damage upon an enemy or offender, we must not send him before the tribunals of justice or subject him to any penalty personal or pecuniary—these are instru-

some one else, we should contrive by every means in our power both by word and deed to secure him impunity and 481 prevent him from appearing before the judge, or if he do, we must devise means that the enemy may effect his escape and not suffer punishment; but if he have stolen large sums of gold we must contrive that he may not refund it, but keep and spend it, on him and his, lawlessly and godlessly; or if again he have committed crimes worthy of death, that he may not die; if possible never, but be immortal in his wickedness, or if not, that he may prolong his life to the utmost being such as he is. Such are the objects as it seems to me, Polus, for which rhetoric is serviceable, for to one who does not intend to do wrong the use of it does *not* seem to me particularly great—if indeed there be any use in it at all—for to be sure in our preceding discourse it no where came to light.

Cal. Tell me, Chærephon, is Socrates in earnest in all c. 37 this, or only joking?

Chær. I should say, Callicles, prodigiously in earnest. However there's nothing like asking him the question.

Cal. I'faith, that's just what I am curious to do. Tell me, Socrates, are we to suppose that you are serious now or in jest. For if you are serious and what you say is really true, the life of all of us must have been turned upside down, musn't it? and we are all doing the exact contrary it seems to what we ought to do.

Soc. Callicles, if we men had not certain feelings in common, though they do vary in different individuals¹, but

ments of correction and cure, they are no injury but a benefit. The true and real punishment of injustice and vice is to let them take their course, and to encourage and foster their growth as well as secure the impunity of the offender by every means in our power—only in so doing, he adds half in joke, we must take good care that the injustice which we encourage is not exercised at our own expense, which would rather spoil the fun for *us*.

¹ That is there are 'affections,' *πάθη, παθήματα*, feelings, sentiments, common to the whole human race, the same in kind, but varying in different individuals in the mode degree circumstances and objects of their exercise.

if one of us had feelings peculiar to himself and so differing from the rest of mankind¹, it would not be easy for one of us to exhibit to his neighbour any of his own impressions. I make this remark in consequence of having observed that you and I are just now in pretty much the same condition, enamoured, that is, the pair of us, of two things apiece, I of Alcibiades son of Clinias and philosophy, and you of the Athenian Demus and the son of Pylilampes². Now I remark constantly that with all your cleverness however much your favourite may talk and whatever opinion he may happen to pronounce about any thing, you can't contradict him, but are constantly changing backwards and forwards. If it be in the assembly that you are making a speech, and Demus—the Athenian Demus I mean—doesn't agree with you, you veer round at once and say any thing it pleases, or when you are talking to that fair youth the son of Pylilampes, the very same thing happens to you; you can't resist any thing that your minion resolves or says, and therefore if any one were to express surprise at the oddity of what you are constantly saying to oblige them, you would tell him I dare
 482 say, if you chose to speak the truth, that unless your favourite can be prevented from talking in that way you too must always go on saying the same. Imagine then that you have to receive precisely the same answer from me, and don't be surprised at my saying this, but (if you don't like it) make my mistress Philosophy leave off talking in this way. For, my dear friend, she always holds the same language as you hear from me now, and is far less inconstant (capricious) to me than any other mistress; for that son of Clinias is at the mercy now of this now of that opinion, but Philosophy is ever constant to the same. Her assertions are what

¹ ἴδιον is followed here by the comparative ἤ, as ἄλλο, ἕτερον, ἀλλοίον, διάφορον, ἐναντίον, even ἀνόμοιον, *Cratyl.* 435 E, and other words in which a comparison is implied. Peculiarity in an individual implies a *difference from* the rest of the species, and in this the comparison is conveyed.

² His name was Demus; see *Arist. Vesp.* 97.

you are now so surprised at, though you were present yourself when they were made. So then either refute her, as I said just now, by showing that wrong doing and impunity in guilt is not the extremest of all evils; or if you leave this unrefuted, by the dog, God of the Egyptians, Callicles, Callicles won't agree with you, but there will be a discord between you all your life long. And yet *I* should think that it were better for me that my lyre should be out of tune and discordant, or any chorus that I had furnished, or that any number of men should disagree with me and say the contrary, than for my own single self to be out of harmony with and contradict myself.

Cal. Socrates, you seem to be running riot (wantonly c. 38 extravagant) in your talk like a genuine popular orator; and now you are declaiming in this way because Polus has fallen into just the same error as he was accusing Gorgias of being betrayed into in his argument with you. For he said if I remember right, that when you asked Gorgias, supposing any one came to him with the intention of studying rhetoric without the knowledge of justice, whether he would teach it him, he turned bashful and said he would, in compliance with the popular prejudice, because people would be indignant if he said no; and so by reason of this admission he was forced to contradict himself; which is exactly what you are so fond of. And he was quite right in my opinion in ridiculing you as he did then. But now this time he has met with the very same disaster himself; and for my own part, what I don't approve of in what Polus said is just this, that he conceded to you that doing wrong is fouler than suffering it; for it was in consequence of this admission that he himself in his turn got completely entangled by you in the argument and had his mouth stopped, because he was ashamed to say what he thought. For, Socrates, you *do* really divert the argument to such vulgar fallacies and popular claptrap, whilst you pretend all the time to be in the pursuit of truth, to what is 'fair' not by nature but merely by law or con-

vention : whereas in fact for the most part these are opposed
 483 to one another, nature and convention : and so if a man
 is timid and doesn't venture to say what he thinks, he
 is forced to contradict himself. And this forsooth is your
 ingenious device that you have discovered to take people in
 with in your discussions ; when a man asserts any thing as
 according to law or convention you slyly substitute ' accord-
 ing to nature ' in your questions, and when he is appealing
 to natural principles you refer to convention. As for in-
 stance in the present case, of doing and suffering wrong,
 when Polus was speaking of what is conventionally ' fouler,'
 you followed up what he meant ' conventionally ' by arguing
 upon it in the ' natural ' sense. For it is only by custom and
 convention that doing wrong is fouler ; by *nature* every thing
 is fouler which is likewise worse, as suffering wrong. For
 in fact the endurance of such a thing as wrong is not a man's
 part at all, but a poor slave's, for whom death is better than
 living—as it is indeed for any one who is unable to help him-
 self when wronged and insulted or any one else for whom he
 cares. However the law makers to be sure are the weaker
 and more numerous part of mankind. It is with a view
 therefore to themselves and their own interest that they
 frame their laws and bestow their praises and their censures ;
 and by way of frightening the stronger sort of men who are
 able to assert their superiority, in order that they mayn't
 assert it over *them*, they tell them that self-seeking is foul
 and unjust, and that this is what wrong doing consists in,
 trying namely to get the advantage over one's neighbours ;
 for they are quite satisfied no doubt, being the inferiors
 themselves, to be on an equality with the rest.

- c. 39 Such then is the reason why seeking to get more than
 the mass of mankind is conventionally styled unjust and foul,
 and why they call it doing wrong : whereas the truth is, in
 my opinion, that nature herself shows on the other hand¹

¹ *as*, Bekk. Edd. Tur.

that it is just that the better should have more than the worse, and the abler than the less able. And it is plain in many instances that this is so, not only in all the other animals, but also in mankind in entire states and races¹, that right I mean is decided to consist in this, that the stronger should bear rule and have the advantage over the weaker. For by what right did Xerxes invade Greece, or his father Scythia? or in any other of the ten thousand similar cases of the kind that might be produced? No, no, these men no doubt follow nature in acting thus, aye by my faith and law too, the law of nature; not however I dare say that which *we* frame by way of moulding the characters of the best and strongest of us, whom we take from infancy, and taming them like lions by spells and conjuring tricks reduce them to abject slavery, telling them that they must be 484 content with their fair share and that this is the meaning of fairness and justice. But I fancy when there arises a man of ability he flings off all these restraints and bursts them asunder and makes his escape; and trampling under foot all our written enactments (formularies)² and juggleries and spells and laws, clean against nature every one of them, our would-be slave rises up against us and shows himself our master, and *then* natural justice shines forth in its true light. And it seems to me that Pindar too confirms what I say in the ode in which he says "Law the Lord of all, mortals and

¹ *Lit.* in states and races as wholes, or collectively.

² *γράμματα*, non de psephismatis intelligenda sunt, quæ voluit Heindorfius, sed omnino de formulis in quarum numero sunt psephismata, ut vere monuit Schæferus ad Demosth. *Appar.* iv. 260. Stallb. The writings documents or formularies expressed by *γράμματα* are of course the *γεγραμμένος νόμος*, the human written laws, enacted by the several societies for their own purposes, adapted to the habits customs and opinions prevailing in these societies, and therefore varying according to time place and circumstance. To them are opposed the unwritten laws *ἀγραφος νόμος*, *ἀγραπτα κάσφαλή θεῶν νόμιμα*, the higher and immutable law, natural or divine, or rather natural *and* divine, whose sanctions are always superior, and sometimes may be opposed, to human institutions.

immortals:" He, you know, he continues, "inflicts, and justifies, the utmost violence with supreme hand¹. I appeal in proof to the deeds of Hercules, for unbought —" The words are something like that, for I don't know the ode well. He says however, that he neither purchased nor received as a gift from Geryones the cows that he drove off, as though this were natural right, that cows or any other property of the inferior and weaker should all belong to the superior and stronger.

- c. 40 Such then is the truth in this matter, and you will be convinced of it if at length you leave off your philosophy and pass on to higher things. For to be sure, Socrates, philosophy is a pretty thing enough, if only a man apply himself to it to a moderate extent at the proper age; but if he go on spending his time upon it too long, it's the ruin of a man. For if he be ever so clever and yet carries these studies far on into life he must needs turn out ignorant of every thing that one who would be an accomplished and eminent citizen should be conversant with. For in fact people of this sort show themselves ignorant of the laws of their own cities, and of all that a man ought to say in his ordinary dealings with the world, public or private, and of human pleasures and desires, and in short quite unacquainted with the varieties of human character. Accordingly when they come to undertake any private or public business they make themselves ridiculous—just as no doubt your public men do when *they* take part in your occupations and discussions. For the fact is, as Euripides says,

Each shines in that, to that end presses forward,
Devotes to that the better part o' the day,
Wherein he chances to surpass himself:

- 485 Whereas everything in which a man is weak he shuns, and calls it bad names; but the other he praises, out of regard for himself, thinking in this way to praise himself at the same time. But no doubt the best course is to take advantage of

¹ i. e. violence is justified by the same supreme authority which inflicts it.

both. Philosophy it is well to cultivate just so far as serves for education, and it is no disgrace for a lad to study it: but when a man already advanced in life still goes on with it, the thing, Socrates, becomes ridiculous; and for my own part the feeling which I have towards students of philosophy is very much the same as that with which I regard those that lisp in a childish way¹. For whenever I see a little child to whom it is still natural to talk in this way with a childish lisp, I like it, and it strikes me as pretty and a sign of gentle breeding and suitable to the infant's age: but when I hear a little creature talk distinctly it gives me quite a disagreeable impression and offends my ears and seems to me vulgar and only fit for a slave. When on the other hand one hears *a man* lisp or sees him playing childish tricks it appears unmanly and one would like to give him a good flogging. Just the same is the feeling that I have towards philosophical studies. For when I observe attention to philosophy in a young lad I approve of it, and it strikes me as becoming, and I look upon it as a mark of gentle birth and breeding in him, and one who neglects it I account illiberal, and as one that will never deem himself capable of any fine or generous action: but then when I see one advanced in life still going on with his philosophy, and unable to lay it aside, such a man as *that* (*ἡδῆ*), Socrates, seems to me to want flogging. For as I said just now a man like that, clever as he may be, cannot fail to become unmanly by avoiding the centres (frequented places) of the city and the market-places which as the poet² said are the places where men acquire distinction; his fate is to skulk in a corner and pass the rest of his life whispering with three or four lads, and never give utterance to any free and noble and generous sentiment.

¹ Schleiermacher, note, p. 487, points out as singular and unPlatonic that *παίσειν* here has nothing opposed to it; *σαφῶς διαλέγεσθαι* alone standing in opposition to *ψελλίσεσθαι* and *παίσειν*. I have for this reason translated the two latter here and in the next sentence as a hendiadys.

² Homer, *Il.* IX. 441.

c. 41 Now, Socrates, I have a great regard for you; and accordingly I seem to be inspired now with the same feeling towards you as Zethus in Euripides, whom I just referred to, has towards Amphion. In fact it occurs to me to say very much the same to you as he says to his brother, that 'you neglect,' Socrates, 'what you ought to pay attention to, and a soul endowed by nature with her noblest gifts you
486 disfigure by a boyish disguise¹; and neither amid the counsels of justice will you ever deliver an opinion aright, nor find aught probable and persuasive, nor devise any gallant resolution on another's behalf².' And yet, my dear Socrates—and now don't be angry with me, for all that I am about to say is out of regard for you—don't you think it a shame for a man to be in the condition which I consider you to be in, together with all those who are constantly going deeper and deeper into philosophy. For as it is, if a man were to arrest you or any one else of those like you and drag you off to prison charging you with some crime of which you were entirely innocent, you know very well that you wouldn't know what to do with yourself, but there you would stand with your head swimming and your mouth open not knowing what to say; and when you were brought up before the court, however contemptible and wretched your accuser might be, you would be condemned to die if he chose to lay the penalty at death. And yet how can this be a wise thing, Socrates, 'for an art to find a man highly gifted and make him worse,' unable either to help himself or to rescue

¹ See note A in the Appendix.

² The following verses may perhaps represent as much as *Plato* has here given us of what Euripides wrote:

Thou shunn'st, Amphion, what thou should'st pursue;
 The nobly-gifted soul which nature gave thee
 Disgracing thus by womanish disguise.
 No voice hast thou where Justice holds her council,
 No words of weight persuasive canst thou find,
 Nor prompt in injured innocence' defence,
 The gallant counsel and the high resolve.

from the greatest dangers himself or any one else, and liable to be stript by his enemies of all his substance, and to pass his life in the city an absolute outlaw¹. Why such an one, though the expression is perhaps somewhat coarse, may be slapped in the face with impunity. Come, come, my good friend, 'take my advice, leave off' refuting, 'and cultivate the accomplishment' of business, and cultivate what will gain you the reputation of good sense; leave to others these over-nice frivolities or nonsense or whatever else they should be called, 'which will end in your dwelling in an empty and desolate house' (i. e. end in poverty and isolation); and emulate, not men who waste their time in such trivial debates, but those whose portion is wealth and fame and many other good things.

Soc. If my soul had happened to be made of gold, Callicles, don't you think I should have been delighted to find one of those stones with which they test gold, the best of them, which would enable me by the application of it—provided, that is, it bore me witness that my soul had been duly cared for—to be quite sure that I am in a satisfactory state, and have no need of any other touchstone? c. 42

Cal. What is the meaning of this question, Socrates?

Soc. I'll tell you directly. It seems to me that in meeting you I have met with such a treasure.

Cal. Why so?

Soc. I am quite convinced that whenever you agree with me in any of the opinions that my soul forms, *that must* needs be the very truth. For I perceive that one who would

¹ ἀτιμος is usually understood to mean here 'in dishonour.' I think it has rather the technical sense of 'one under ἀτιμία.' Callicles says that a man who can't defend himself in a court of justice is in the same position as one who has lost his civil rights, or is outlawed. The latter has lost the right of appearing in court to defend himself, and the former by his ignorance and incompetency is no better off, since he can make no good use of his privilege; he is equally at the mercy of his enemies, and may like the other be wronged and insulted with impunity. This interpretation is fully confirmed by the reference to this passage at p. 508 D.

487 put a soul to a sufficient test as to whether she is leading a right life or the reverse, ought for that purpose (*ἄρα*, accordingly,) to be possessed of three things, all of which you have, knowledge and good-will and candour. For I meet with many people who are unable to test me because they are not wise, as you are; others again are wise enough, but don't choose to tell me the truth because they don't care for me, as you do; and our two foreign friends here, Gorgias and Polus, are no doubt wise and kindly disposed towards me, but they are somewhat deficient in frankness and are rather more shy and bashful than the occasion requires: surely it must be so, when they carried their modesty to such a pitch, that out of sheer *modesty* each of them *ventures* to contradict himself in the presence of a large company, and that on subjects of the highest importance. But you have all these qualifications which the others want. For you are sufficiently instructed as many of your countrymen will be ready to allow, and well disposed to me. What proof have I of that? I will tell you. I know, Calicles, that there are four of you that have set up a partnership for the pursuit of wisdom, yourself, and Tisander of Aphidnæ, and Andron son of Androtion, and Nausicydes of Cholarges. And I once heard you deliberating how far the cultivation of wisdom should be carried, and I remember that an opinion something like this was carried in your society; that the study of philosophy was not to be so eagerly pushed forward into all its minutiae, but you recommended one another to be very careful not to make yourselves over wise for fear you should unconsciously get spoiled. So then when I hear you giving me the same advice as you did to your most intimate friends it is a satisfactory proof to me that you really have a kindness for me. And further that you are able to speak out your mind without any superfluous modesty, you not only say yourself, but the speech which you made us no long time ago fully bears out your assertion. Well then, this is plainly the state of the case at present; if there be any

point in which you agree with me in our argument *that must* have been fully tested by both of us, and there will be no further occasion to submit it to any other touchstone; for it cannot have been either want of wisdom or excess of modesty that induced you to make the concession, nor again could it be for the purpose of deceiving me, because you are my friend, as you tell me yourself: and so any argument between you and me *must* in reality attain the very perfection of truth. And, Calicles, there can be no nobler subject of inquiry than that on which you just now took me to task, what a man's character ought to be, and what pursuits he should engage in, and to what extent, early or late in life. For of this you may be sure, that if there be any thing 488 in my own conduct in life that is wrong, the error on my part is not intentional but is due solely to my ignorance. Pray then don't desist from admonishing me as you did at first, but point out to me clearly what it is that I ought to pursue, and how I may best attain it. And if you find me assenting to you now, and afterwards not acting in conformity with what I agreed to, set me down for an absolute dunce and never give me any advice again as an irreclaimable reprobate. And now pray repeat to me all over again what you and Pindar understand natural justice to consist in. Is it that the superior should carry off by force the property of the inferior, and the better rule the worse, and the nobler have more than the meaner? Is justice any thing else according to you, or does my memory serve me right?

Cal. No, I said that before, and I say so now.

c. 43

Soc. And do you mean the same thing in calling a man better and superior? For to tell you the truth I was just as unable before as now to make out your precise meaning. Is it the stronger that you call superior, and are the weaker bound to listen to the stronger— as for example I believe you showed us before that it is in pursuance of their natural right that the great states attack the little ones, because they

are superior and stronger, on the assumption that what is superior and better and stronger is all the same—or is it possible to be better and at the same time inferior and weaker, and to be superior and yet worse? or is the definition of the better and superior the same? This is precisely the thing that I want you distinctly to determine for me, whether what is superior and what is better and what is stronger are the same thing or different.

Cal. Well I tell you distinctly that it is all the same.

Soc. Well but are not the many superior by nature to the one? those you know that make the laws to control the one, as you said yourself just now.

Cal. Of course.

Soc. Consequently the institutions of the many are those of the superior.

Cal. No doubt.

Soc. And so of the better? for the superior are far better according to your account.

Cal. Yes.

Soc. And so their institutions are naturally 'fair,' since they are superior?

Cal. I allow it.

Soc. Is not this then the opinion of the many, as you said just now yourself, that justice consists in having an equal share, and that it is 'fouler' to do wrong than to suffer it? Is 489 that so or not? And mind *you* don't allow yourself this time to be caught in a fit of modesty. Is it, or is it not, the opinion of the many that to have one's fair share, and not a larger share, is just, and that there is more disgrace in doing than in suffering wrong? Don't grudge me an answer to my question, Callicles; in order that, supposing you agree with me, I may *then* fairly assure myself of the truth of it as coming from you, when I find it admitted by a man so competent to decide.

Cal. Well to be sure the generality of men do think so.

Soc. Then it is not by law (convention) alone that doing wrong is more disgraceful than suffering it, and that justice

consists in having one's fair share, but by nature too. And so you seem to be mistaken in what you said before and to find fault with me unjustly in saying that law and nature are opposite to one another, and that I, you know, am perfectly aware of all that, and take an unfair advantage of it in arguing; when a thing is asserted 'according to nature' recurring to law, and when 'according to law' is meant, to nature.

Cal. Here's a fellow that can *not* forbear trifling. Tell c. 44 me, Socrates, are you not ashamed to be word-catching at your age, and if a man happen to trip in an expression to take that for a wonderful piece of luck? For do you suppose I mean anything else by being superior than being better? Haven't I been telling you ever so long that I maintain what is better and superior to be the same thing? Or do you suppose I mean that if a rabble of slaves and all sorts of fellows good for nothing except perhaps in mere bodily strength get together, and they pronounce anything, that this and nothing else is law.

Soc. Very good, most sagacious Callicles: *that's* your opinion, is it?

Cal. To be sure it is.

Soc. Well, my dear sir, I have been surmising myself ever so long that you meant something of that sort by superior, and I now repeat my questions from a real curiosity to know what your meaning is. For I presume you *don't* think that two are better than one or that your slaves are better than yourself because they are stronger than you are. Come now tell me all over again, what you really mean by 'the better,' since it is not the stronger. Only, my good friend, do pray be a little milder in your lessons that I may not be obliged to run away from your school.

Cal. You are sarcastic, Socrates.

Soc. No by Zethus, Callicles, whose character you assumed just now to indulge in a good deal of sarcasm against me; but come, do tell us who you mean by the better.

Cal. I mean the more worthy.

Soc. There now, you see you are word-catching yourself and explaining nothing. Won't you say whether you mean by the better and superior the wiser or any others?

Cal. Why to be sure of course I mean these, most emphatically.

490 *Soc.* Then according to your account one man of sense is often superior to ten thousand fools, and he ought to be master and the others submit to his authority, and the governor ought to have more than the governed. That is what your words seem to me to imply—and I am not word-catching—if the one is superior to the ten thousand.

Cal. Well that *is* what I mean. For my opinion is that this is what natural justice consists in, and that one that is better and wiser should have power and other advantages over the meaner and inferior.

c. 45 *Soc.* Stop there now. What is it that you say again this time? Supposing that there are a number of us together, as now, in the same place, and we have in a common stock a quantity of eatables and drinkables, and are people of all sorts, some strong others weak; and one of us, a physician say, be wiser than the rest in such matters, and be as is likely stronger than some of us and weaker than others, will not he as being wiser than we are be better and superior in these things?

Cal. No doubt of it.

Soc. Is he then to have a larger share than the rest of us in these provisions because he is better? or ought he in virtue of his authority to have the distribution of them all, but in respect of spending and consuming them upon his own person to have no advantage at all, but only have more than some and less than others? or if he chance to be the weakest of us all, ought he not, Callicles, though the best to have the smallest share of all? Is it not so, my good friend?

Cal. You are talking about things to eat and drink and physicians and a parcel of stuff; but that's not what I mean.

Soc. Well then, do you call one that is wiser better? say yes or no.

Cal. Yes I do.

Soc. But don't you allow that the better ought to have the larger share?

Cal. Yes, but not of things to eat and drink.

Soc. I understand. Well, of clothes perhaps, and the most skilful weaver ought to have the largest coat and go about dressed in the most extensive assortment of the finest clothes.

Cal. Clothes indeed! Nonsense.

Soc. Well in shoes then; plainly the wisest in them and the best ought to have the advantage. The shoemaker I dare say ought to walk about in the biggest shoes and the largest stock of them.

Cal. Shoes? Stuff. What nonsense you keep talking.

Soc. Well if you don't mean that sort of thing, perhaps it is something of this kind: a farmer for instance of knowledge and skill in the cultivation of land; *he* perhaps ought to have an advantage in seed, and use the largest allowance of seed upon his own land.

Cal. How fond you are of perpetually repeating the same things, Socrates.

Soc. Yes, and not only that, Calicles, but on the same subjects too¹.

Cal. Yes by heaven, you absolutely never leave off⁴⁹¹ talking about cobblers and fullers and cooks and physicians, just as if our argument had any thing to do with them.

Soc. Well then will you tell me what the things are

¹ This repartee was really made by Socrates to the omniscient and all accomplished Hippias, *Xen. Memor.* IV. 4. 6, to whom it is applied with much greater force and propriety than to Calicles here—and I think also, in spite of the a priori improbability of the supposition, expressed by the dry matter-of-fact Xenophon with more point and pungency than by Plato in the text.

With the next sentence compare *Xen. Memor.* I. 2. 37; IV. 4. 5; Grote, *Hist. of Greece*, Vol. VIII. p. 597, ed. 2.

in which the superior and the wiser man has a right to a larger share? or will you neither tolerate any suggestion of mine nor offer one yourself?

Cal. Why I *have* been telling you ever so long. First of all by 'the superior' I don't mean shoemakers nor cooks, but those who have skill and ability in the administration of the affairs of state, and not only skill but energy and vigour too, able to execute any designs they have conceived and not men to flinch from feebleness of spirit.

c. 46 *Soc.* Do you observe, most worthy Callicles, that you don't find the same fault with me that I do with you? For you say that I am constantly repeating the same things and reproach me for it, whereas I charge you on the contrary with never saying the same thing on the same subject; but first you defined the better and superior to be the stronger, and next the wiser, and now here you are again with something different; you tell us that superiority and merit consists in a certain manliness and energy. Nay, my good friend, do tell us and have done with it who you really do mean by the better and superior and in what.

Cal. Why I *have* told you already, men of ability and energy in affairs of state. These are the men that ought to be masters in their cities, and justice means this, that these should have more than the rest, the governors than the governed.

Soc. How's that? Than themselves, my friend¹?

¹ I have followed here, as usual, the text of the Zurich Editors, who with Bekker from one MS. omit the words *ἢ τι ἀρχοντας ἢ ἀρχομένους*, as an explanatory gloss on *ἀνθρώπων*. Heindorf retains them without alteration, and it cannot be denied that they make perfectly good sense in that position. Otherwise they may be made to follow Callicles' *πῶς λέγεις*; and then Socrates' answer *ἐνα ἕκαστον κ.τ.λ.* will be a direct reply to them. Stallbaum extracts from Olympiodorus' commentary an entirely different reading, which makes excellent sense, but is not as it seems to me a very Platonic bit of dialogue. The object of the question is, as Olympiodorus notes, to introduce the subject of *σωφροσύνη*, self-government or self-control. What do you say, asks Socrates, to the case of a man governing himself? must he have a larger share than—

Cal. What do you mean?

Soc. I mean that every man is his own governor. Or is this governing one's self not required, but only governing others?

Cal. What do you mean by governing one's self?

Soc. Nothing that need puzzle you, but just what people in general mean; one that is temperate and has the control over himself, master of all the pleasures and desires in himself.

Cal. What a charming person you are! you mean those simpletons 'the temperate.'

Soc. How should I? every one knows that I don't mean *that*¹.

Cal. No indeed I should think not, Socrates. For how can a man be happy if he is a slave to any one whatever? But this is what is fair and just according to nature, as I tell you now quite frankly, that² a man who would lead a right life is bound to let all his desires grow to their full 492 extent and not to repress them, and to be competent to minister to them when they are as great as they can be by his manly energy and wisdom and to satisfy every desire that he may chance to conceive. But this I dare say is for the many impossible. And this is why they find fault with such characters, out of shame, to disguise their own weakness, and

himself? It is of course only half in earnest. I should myself have preferred *τί δὲ αὐτῶν, ὡ ἐταίρε;* without the interrogation at *τί δέ.* 'What say you to—themselves, my friend?' There are other conjectures besides those mentioned, which may be found in Stallbaum's note.

¹ Here again there is a difference of reading. The MSS. have *πῶς γὰρ οὐ;* and *οὐ τοῦτο.* One of the two negatives must be rejected. The Zurich Editors, after Hermann, have omitted the first. Stallbaum retains this, and alters *οὐ τοῦτο* into *οὐτω* in this sense; 'Of course I do, *i. e.* mean those that you call simpletons: every one must know that this *is* my meaning.' Then *πῶς γε σφόδρα* in Callicles' reply will signify, yes indeed those *are* what you mean; *i. e.* they really *are* simpletons that you call temperate.

² *ὅτι δέι κ.τ.λ.* may be the epexegetis of *τοῦτο*, but I think rather that there is a slight change of construction, and that *ὅτι δέι* is accommodated to the *λέγω* immediately preceding.

say forsooth that unrestrained indulgence is disgraceful, enslaving as I said before the more highly gifted of mankind; and, unable themselves to procure the gratification of their appetites, they commend self-control and justice by reason of their own want of manhood. For to such men as have had the advantage of being either kings' sons or of having abilities of their own adequate to procure for themselves any kind of power or tyranny or despotic authority¹ what in very truth were baser and worse than self-control? if, when they are at liberty to have the enjoyment of all good things and nothing stands in their way, they were of their own accord to invite to be masters over them the laws and notions and censures of the vulgar herd of men? Or how could they fail to have been made miserable by the 'fairness' as you call it of justice and self-control, if they have no more to bestow upon their own friends than their enemies, and that too when they are rulers in their native cities? Nay, in good truth, Socrates, which you profess to seek after, the case stands thus: luxury and self-indulgence and liberty to do as you please, provided they have power to back them, *these* are virtue and happiness: and all the rest of these fine-sounding phrases, your conventions in violation of nature, are nothing but people's nonsense and utterly contemptible.

c. 47 *Soc.* Upon my word, Callicles, there is really something quite noble in the candour with which you follow out your

¹ *δυναστεία*. Thucyd. III. 62. ἡμῶν μὲν γὰρ ἡ πόλις τότε ἐτύγχανεν οὔτε κατ' ὀλιγαρχίαν ἰσὺνομον πολιτεύουσα, οὔτε κατὰ δημοκρατίαν· ὅπερ δὲ ἐστὶ νόμοις μὲν καὶ τῷ σωφρονεστάτῳ ἐναντιώτατον, ἐγγυτάτῳ δὲ τυράννου, δυναστεία δὲ λίγων ἀνδρῶν εἶχε τὰ πράγματα. Arist. Pol. IV. 5 (Bekk.), τέταρτον δ' (ὀλιγαρχίας εἶδος) ὅταν ὑπάρχη τό τε εἶναι λέχθην καὶ ἀρχὴ μὴ ὁ νόμος ἀλλ' οἱ ἀρχόντες. καὶ ἐστὶν ἀντίστροφος αὕτη ἐν ταῖς ὀλιγαρχίαις ὡς περ ἡ τυραννὶς ἐν ταῖς μοναρχίαις.....καὶ καλοῦσι δὴ τὴν τοιαύτην ὀλιγαρχίαν δυναστείαν. So that *δυναστεία* is despotic power shared amongst several rulers: tyranny is confined to one. That the meaning of this word however and of *δυνάστης* is not confined to this special sense will appear from p. 525 E, compared with 526 B, where *δυνάσται* is equivalent to οἱ δυνάμενοι, and the Lexicons. I have therefore usually rendered it 'potentates.'

theory: you are indeed stating now distinctly what the rest of the world thinks no doubt, but doesn't choose to express. I beg you therefore by no means to relax your efforts, that it may be made really plain how one ought to live. And now tell me; you say, do you, that the desires are not to be repressed if a man would be what he ought to be, but that he is to let them grow to their fullest extent and procure from some source or other satisfaction for them, and that this is virtue?

Cal. Yes, that's what I say.

Soc. Then it isn't true as people say that those that want nothing are happy.

Cal. Why at that rate stones and corpses would be happy.

Soc. Well to be sure, as you say, our life is indeed a strange one. For to say the truth I shouldn't be surprised if Euripides is right when he says,

Who knoweth if to live is to be dead,
And to be dead to live?

and we are all really dead—as indeed I once heard from one 493 of our sages, that in our present state we are dead, and the body is our tomb, and that part of the soul in which the desires reside is of a nature liable to be over persuaded and to be swayed continually to and fro. And so some smart clever fellow, a Sicilian I dare say or Italian, turned this into a fable or allegory, and, playing with the word, from its susceptibility to all impressions and capacity for holding belief gave it the name of a jar, and the foolish he called uninitiated: in these uninitiated, that part of the soul where the desires lie, the licentious and non-retentive portion of it, he compared to a jar full of holes, because there was no possibility of filling or satisfying it. So then he you see, Callicles, takes the opposite view to you, showing that of all those in Hades—meaning you know the invisible—those who are uninitiated will be the most miserable, and have to carry water into their leaky jar in a sieve perforated just like the

other. And then¹ by the sieve, as my informant told me, he means the soul: and the soul of the foolish he likened to a sieve because it is full of holes, as incapable of holding anything by reason of its incredulity and forgetfulness (i. e. its inaptitude for receiving and retaining knowledge). Now all this to be sure is pretty tolerably whimsical; still it represents clearly what I want to prove to you, if I can manage it any how, in order to persuade you to change your mind; to choose, that is, in preference to a life of insatiable self-indulgence one that is orderly and regular and ever content and satisfied with what it has for the time being. But now am I making any impression upon you, and are you coming round to my opinion that the regular livers are happier than those who indulge themselves without restraint? or none at all? and will no amount of such fables incline you a bit the more to change your mind?

Cal. The latter is nearer the truth, Socrates.

- c. 48 *Soc.* Well then, let me give you another comparison from the same school² as the preceding. See if you allow something of this sort to be a representation of each of the two lives, the life of self-control and of self-indulgence, as it might be if of two men each had several jars, and those of the one were sound and full, one of wine and another of honey and a third of milk and a number of others full of various things, and of these there were streams scanty and hard to get at and procurable only by many severe toils. Well, the one when he has filled himself draws no more and troubles himself no more about the matter, but as far as this is concerned remains quite at his ease: but the other finds, like the former, the streams possible though difficult to come at, and his vessels leaky and decayed, and is forced to be
494 constantly filling them all day and all night on pain of suf-

¹ *δέ* may be here either the mere mark of a quotation, or, as I have translated it, indicate the consequence or connection of one part of the allegory with the preceding—how the one thing *follows* the other.

² See note B, Appendix.

fering the extremity of misery. If such be the nature of each of these two lives do you maintain that that of the self-indulgent man is happier than that of the regular and orderly? Have I moved you at all by what I have said to admit that the life of order is better than that of self-indulgence, or have I not?

Cal. You have not, Socrates. For the one who has filled himself has no more pleasure remaining, but that is just what I called awhile ago living like a stone after a man is full¹, no more sensible to pleasure or pain. But the real pleasure of life consists in this, in the influx of as much as possible.

Soc. Well but if the amount of the influx be great must not that of what runs away be great too? and must not the holes for these discharges be of large size?

Cal. No doubt.

Soc. Then it's a plover's life² that you are describing this time, and not that of a corpse or a stone. And now tell me, do you mean (by a life of pleasure) something of this kind, as for instance to be constantly eating when you are hungry?

Cal. Yes I do.

Soc. And to be thirsty, and always drinking when you are thirsty?

¹ *πληρώση*, the reading of MSS., requires us to understand *τοὺς πλῆθους*, or something similar; but this ellipse is so awkward and seems so unlikely, that I think the true reading must be *πληρωθῆ*, a conjecture which Stallbaum has also hit upon. And so I have translated it.

² *χαρδριός*. The habit of this bird which determines Socrates' selection of it for his illustration may be found in the Scholiast and in Ruhnken's note on *Timæus*, p. 273, but cannot be further discussed here. We gather from the derivation of its name (*χαρδρα*) that it haunted the narrow rocky ravines which formed the beds of mountain-torrents; from *Arist. Av.* 226, that it had a shrill cry; from the same play, v. 1141, that it was a river-bird; and again from Aristotle, *Hist. Anim.* VIII. 3. 593, b. 15, that it lived by the water—it is classed by him with the white cormorant, *λαρὸς λευκός*, the *κέπφος* and *αθῦνια*, all sea-birds—and said to live upon the fish and other waifs and strays that were thrown on shore. I have used the word plover merely as the customary rendering; the real species is I believe unknown.

Cal. That is what I mean, and to have all the other desires, and to be able by the enjoyment one feels in the satisfaction of them to lead a life of happiness.

c. 49 *Soc.* Bravo, most worthy Callicles; only go on as you have begun, and mind you don't let your modesty balk you. And it seems that *I* mustn't be deterred by any shyness either. So tell me first of all if a man in a constant state of itching and irritation, provided he have abundant opportunity of scratching himself, may pass his life happily in continual scratching¹?

Cal. What a strange creature you are, Socrates; and a thoroughpaced declaimer² (platform orator).

Soc. Just so, Callicles, and that's how I came to startle Polus and Gorgias before and put them out of countenance; but you never will be either startled or disconcerted, you are such a brave fellow. Come now, just answer my question.

Cal. Well then I allow that a man may pass a pleasant life in scratching himself.

Soc. And if a pleasant one a happy one too?

Cal. Yes certainly.

Soc. Is that so if the itching be confined to his head? or what more must I ask you? See, Callicles, what answer you will make if you be asked all that is naturally connected with (logically follows from) this theory of yours one after another. And the climax of all things of this sort, the life of those who addict themselves to the indulgence of unnatural appetites, is not that scandalous and shameful and miserable? or will you venture to say that these are happy, provided they are abundantly supplied with what they want?

Cal. Are you not ashamed, Socrates, to introduce such abominations into the conversation?

¹ See Bacon, *de Augmentis*, Bk. VII. c. 2, Vol. I. p. 725, Ellis and Spedding's Edition. Compare Phileb. 47 B.

² The sense in which the word *δημήγορος* 'declaimer or popular orator' is here applied to Socrates, is that from what he had just said it appears that he would have recourse to any kind of vulgar claptrap, any rhetorical or dialectical trick—in short that he was ready to say anything in order to gain his point.

Soc. What? is it *I* that introduce them, my fine fellow, or the man that pronounces so recklessly that all that feel pleasure, whatever that pleasure may be, are happy; and 495 makes no distinction between the good and bad sorts of it? But come now, tell me once more whether you say that pleasure and good are the same thing, or that there is some kind of pleasure which is not good?

Cal. Well then in order to avoid the inconsistency of pronouncing them to be different, I say they are the same.

Soc. You are spoiling all the professions¹ you made at the outset, Callicles, and you can no longer go along with me satisfactorily in the investigation of the truth, if you say what is contrary to your real opinion.

Cal. Why so do you, Socrates.

Soc. Well then I am quite in the wrong if I do, and so are you. But now, my dear fellow, look whether good be not something entirely different to what you say, that is to pleasure from whatever source derived: for not only those that I have just now hinted at, but a number of other shameful consequences manifestly follow, if this is really so.

Cal. Yes in your opinion, Socrates.

Soc. And do you really mean to maintain this, Callicles?

Cal. Yes I do.

Soc. Then are we to suppose you to be serious and so c. 50 enter upon the discussion of the question?

Cal. Oh yes by all means.

Soc. Well then since that is your opinion explain me this distinctly. There is some thing I presume to which you give the name of knowledge?

Cal. To be sure there is.

Soc. And didn't you say just now that there is such a thing as courage also as well as knowledge?

Cal. I did no doubt.

¹ Professions of dealing frankly and openly in stating his convictions.
Schol.



Soc. And you meant, didn't you, to speak of them as two things, because the one is distinct from the other?

Cal. Yes quite.

Soc. Again; pleasure and knowledge, are they the same thing or different?

Cal. Different to be sure, you mighty genius.

Soc. And courage again, is that distinct from pleasure?

Cal. Of course it is.

Soc. Come now, mind we don't forget this, that Callicles of Acharnæ pronounced pleasure and good to be the same thing, and knowledge and courage to be different from one another and from the good.

Cal. And Socrates of Alopece we can't get (*ἡμῶν*) to admit it. He doesn't, does he?

Soc. He does not; and I think not Callicles either, when he has duly examined himself. For tell me this, don't you think that those that are well off are in the opposite condition to those that are ill off?

Cal. Yes I do.

Soc. If then these two states are opposite to one another, must not the case be the same with them as with health and disease? For to be sure a man is never well and ill at once, nor is he delivered from health and disease at one and the same time.

Cal. How do you mean?

496 *Soc.* Take for instance any part of the body you please separately and look at it. A man we may suppose has that complaint in his eyes which is called ophthalmia?

Cal. Of course we may.

Soc. Then, it is to be presumed, he can't be sound in those same eyes also at the same time?

Cal. By no manner of means.

Soc. And again, when he gets rid of his ophthalmia, does he at that same time get rid of the health of his eyes too, and so at last get rid of them both together?

Cal. Quite impossible.

Soc. Because such a result would be marvellous and unreasonable, wouldn't it?

Cal. Very much so.

Soc. On the contrary, I should suppose, he acquires and loses either of them alternately.

Cal. I agree.

Soc. And so with strength and weakness in the same way?

Cal. Yes.

Soc. And speed and slowness?

Cal. Certainly.

Soc. And likewise good things and happiness, and their opposites, bad things and misery, does a man acquire each of *them* in turn, and in turn lose it?

Cal. Most assuredly.

Soc. Then if we find any things which a man loses and retains simultaneously, it is plain that these cannot be what is good and what is bad. Do we admit this? Now consider very carefully before you answer.

Cal. Oh, I admit it to the most unlimited (prodigious, supernatural) extent.

Soc. Then let us pass on to our former admissions. Did c. 51 you say that hunger is pleasant or painful? hunger I mean in itself.

Cal. Painful to be sure; though at the same time eating when one is hungry is pleasant.

Soc. I understand: however at all events hunger in itself is painful, is it not?

Cal. I allow it.

Soc. And so with thirst likewise?

Cal. Quite so.

Soc. Must I then ask you any more questions, or do you admit that every kind of want and desire is painful?

Cal. I admit it, don't ask me any more.

Soc. Very good. But drinking when one is thirsty, you admit, don't you, to be pleasant?

Cal. Certainly I do.

Soc. And in this phrase of yours the words 'when one is thirsty' imply pain I presume.

Cal. Yes.

Soc. But 'drinking' is the supplying of a want, and a pleasure?

Cal. Yes.

Soc. So then in the act of drinking you say a man feels pleasure?

Cal. Certainly.

Soc. When he is thirsty?

Cal. To be sure.

Soc. That is with pain?

Cal. Yes.

Soc. Do you perceive then what follows, that you allow that pleasure and pain are felt at once when you say that a man drinks when he is thirsty? Or does this not take place at once at the same time and place, in the soul or the body, whichever you prefer to call it: for I fancy it makes no difference. Is this so, or not?

Cal. It is.

Soc. But moreover you said it was impossible to fare well and ill at the same time.

Cal. And so I do.

497 *Soc.* But to feel pleasure in feeling pain you have admitted to be possible.

Cal. So it appears.

Soc. Consequently to feel pleasure is not to fare well, nor pain ill, so that it follows that what is pleasant is different from what is good.

Cal. I don't know what all this quibbling of yours means, Socrates.

Soc. Oh yes you do, but you affect ignorance, Callicles. Pray now go on yet a little further¹, in order that you may

¹ I have followed the Zurich Editors and Heindorf in omitting the words *ὅτι ἔχων ληψίς* which are not only inconsistent with Socrates' scrupulous and

learn what a clever fellow *you* are that take me to task. Do not in each one of us the thirst and the pleasure conveyed by drinking cease simultaneously?

Cal. I don't know what you are talking about.

Gorgias. Don't do that Callicles, but answer him, if it be only for our sakes, that the argument may be fairly brought to a conclusion.

Cal. Oh but Socrates is always like this, Gorgias; he goes on asking over and over again a number of trifling and unimportant questions and so refutes one.

Gor. Well but what does that matter to you? Any how the penalty does not fall upon you, Callicles: come, come, submit yourself to Socrates to refute as he pleases.

Cal. Well then go on with your paltry trumpery questions, since Gorgias wishes it.

Soc. You are a lucky fellow, Callicles, in having got initiated into the greater mysteries before the lesser; I thought that wasn't allowed. So then let us begin at the point where you left off, and let us know whether each of us doesn't cease to feel thirst and pleasure simultaneously. c. 52

Cal. I allow it.

Soc. And the same with hunger; and in all other cases, doesn't he cease to feel the desires and the pleasures together?

Cal. It is so.

Soc. So then the pains likewise and the pleasures he ceases to feel together?

Cal. Yes.

Soc. But the cessation of what is good and bad is not simultaneous in him, as you admitted before—and won't you do so now?

Cal. Yes I will; and what then?

unfailing politeness, but also interrupt the natural run of the sentence. I take $\delta \tau \iota \epsilon \chi \omega \nu \lambda \eta \rho \epsilon \iota \varsigma$ to be a gloss on $\sigma \phi \iota \lambda \iota \varsigma$. Heindorf would transfer them to Callicles' next reply and read $\sigma \kappa \alpha \delta \alpha \delta \tau \iota \epsilon \chi \omega \nu \lambda \eta \rho \epsilon \iota \varsigma$. Stallbaum's defence and interpretation of them seem to me unsatisfactory.

Soc. Only that it turns out, my friend, that the good is not the same as the pleasant nor the bad as the painful; for the one pair ceases in a man simultaneously and the other does not, because they *are* distinct¹. How then can what is pleasant be the same as what is good or what is painful as what is bad? Or if you please, consider it again in this way; for I dare say even yet you don't admit it. However look at it. In those that you call good, is not that name due to the presence of goodness, just as it is in the handsome to the presence of beauty?

Cal. To be sure.

Soc. Well; do you give the name of good men to fools and cowards? You didn't just now at any rate, but to the brave and wise. These *are* the sort of people that you call good, are they not?

Cal. Certainly.

Soc. Well; have you ever seen a silly child pleased?

Cal. Yes I have.

Soc. And have you never seen a silly man pleased before now?

Cal. I should think so; but what has that to do with it?

Soc. Oh nothing; only answer the question.

Cal. I have.

498 *Soc.* And again, a man of sense under the influence of pain or pleasure?

Cal. Yes.

Soc. And which of the two are more susceptible of pleasure and pain, wise men or fools?

Cal. I should suppose there isn't much difference.

Soc. Well even that's enough. And have you ever seen a coward in time of war?

Cal. Of course I have.

Soc. Well then, upon the enemy's retreat, which of the

¹ ὡς ἐρέων ὄντων may be translated either as in the text, as a repetition of ὅτι οὐ ταῦτ' ἀ γίγνεται, which is Stallbaum's view: or 'which shows that they are distinct' as Schleiermacher understands it.

two seemed to you to feel more pleasure, the cowards or the brave?

Cal. Both of them, I thought: or if not more, pretty nearly equal.

Soc. That'll do just as well. However, the cowards *do* feel pleasure?

Cal. Oh yes, keenly.

Soc. And the fools, it seems.

Cal. Yes.

Soc. And upon their approach, do the cowards alone feel pain, or the brave as well?

Cal. Both.

Soc. In an equal degree.

Cal. More perhaps the cowards.

Soc. And on their retreat don't they feel more pleasure?

Cal. Very likely.

Soc. So then according to you the fools and the wise men, and the cowards and the brave feel pain and pleasure in pretty nearly the same degree, or the cowards more than the brave?

Cal. That is my opinion.

Soc. But further, are the wise and brave good, and the cowards and fools bad?

Cal. Yes.

Soc. Then the good and the bad are susceptible of pain and pleasure pretty nearly in the same degree?

Cal. True.

Soc. Are then the good and the bad good and bad in pretty nearly the same degree? or the bad even in a higher degree good and bad?

Cal. Upon my word I don't know what you mean. c. 53

Soc. Don't you know that you affirm that it is by the presence of good things that the good are good, and of evil things (that men) are bad? and that the good things are the pleasures, and the pains evil things?

Cal. Yes I do.

Soc. Accordingly in those that feel pleasure, good, that is pleasure, is present whenever they are pleased?

Cal. Doubtless.

Soc. And so, since good is present in them, those that feel pleasure are good?

Cal. Yes.

Soc. Again, in those that feel pain is not evil present, that is pain?

Cal. It is.

Soc. And it is by the presence of evil you say that the bad are bad. Or are you no longer of the same mind?

Cal. Oh yes, I am.

Soc. It follows then that all that feel pleasure are good, and all that feel pain bad?

Cal. Certainly.

Soc. And are they better the more they feel it, and worse the less, and if in the same degree about the same?

Cal. Yes.

Soc. Well and you admit don't you that the wise and the fools, the cowards and the brave, are about equally accessible to pleasure and pain, or the cowards even more so?

Cal. Yes I do.

Soc. Aid me then in reckoning up the results we obtain from our conclusions. For, to be sure, as the saying is, 499 'twice yea thrice is it good to repeat fair things¹ and reconsider them. We say that the wise and brave man is good, don't we?

Cal. Yes.

Soc. And the fool and coward bad?

Cal. No doubt.

Soc. And again one that feels pleasure good?



¹ A proverb derived, as the Scholiast informs us, from a verse of Empedocles, *καὶ δις γὰρ ὁ δεῖ καλὸν ἐστὶν ἐπισκεῖν*, a fragment which does not appear in Karsten's collection. The same proverb is referred to *Phileb.* 59 E, and *Legg.* VI. 754 B; XII. 956 E. It seems probable from three of these references that the verse ran, *δις καὶ τρις γὰρ κ. τ. λ.*

Cal. Yes.

Soc. And one that feels pain bad?

Cal. Necessarily.

Soc. And that the good and bad are susceptible of pleasure and pain in the like degree, or perhaps the bad even more?

Cal. Yes.

Soc. So then is the bad man made good or bad in the same degree as the good one, or even good in a greater degree? Does not this follow as well as what we said before from the assertion that pleasure is identical with good? Is not this necessarily the consequence, Calicles?

Cal. To tell you the truth, Socrates, all this while that c. 54 I have been listening to you and assenting to all you say, I have been thinking, if one makes you any concession even in joke, how delighted you are with it, and hold it tight like a child. Just as if you suppose that I or any one else in the whole world does not believe that some pleasures are better and others worse.

Soc. Ho ho! Calicles, what a sly rogue you are¹. You do indeed use me like a child, sometimes telling me that things are one way sometimes another, trying to mislead me. Why I thought you were my friend, and never would mislead me intentionally: but now I see I was mistaken, and it seems I must needs, as the old saying has it, make the best of what I can get, and accept anything you are pleased to offer me.— Well then what you say now, it seems, is that there are certain pleasures, some good and some bad. Isn't it?

¹ I have translated *ὠὸ ὠὸ* as an exclamation 'mirantis et exultantis' after Heindorf Stallbaum and Suidas. Perhaps however from the tone of what follows, in which Socrates is affecting the manner of a child, to which Calicles had compared him, in a pet, the interjection is rather *σχελιαστικόν*—another of its senses—and the words should be interpreted, 'Oh for shame, Calicles, what a sly fellow you are, you are indeed treating me like a baby.' Upon the whole however I think the other is to be preferred.

Cal. Yes.

Soc. Are then those that are beneficial good, and the injurious bad?

Cal. Certainly.

Soc. And are those beneficial which effect something that is good, and injurious something that is bad?

Cal. I believe so.

Soc. Are then these the sort you mean? To take for instance the bodily pleasures of eating and drinking that we were speaking of a moment ago, if some of them produce in the body health or strength or any other bodily excellence are those good, and those whose effects are contrary bad?

Cal. No doubt.

Soc. And so with pains in like manner, are some of them good and some bad?

Cal. Of course.

Soc. Accordingly the good pleasures and pains we are to choose and try to bring about?

Cal. To be sure.

Soc. And the bad ones not?

Cal. Evidently.

Soc. Because if you remember, Polus and I decided that all our actions should be done for the sake of what is good. Do you too agree in this view, that good is the end and aim
500 of all our actions and that for the sake of that everything else is to be done, not that for the sake of the rest? Do you vote on our side as well, and make a third?

Cal. Yes I do.

Soc. Then it is for the sake of what is good that everything else including what is pleasant is to be done, not the good for the sake of what is pleasant.

Cal. No doubt.

Soc. Is it then in everybody's power to make the selection amongst things pleasant what are good and what bad, or is professional knowledge required for each case?

Cal. Professional knowledge.

Soc. Then let us recal to mind what I was saying to c. 55 Polus and Gorgias. I said, if you recollect, that there were contrivances some extending only to pleasure, effecting merely that and no more, and ignorant of the distinction between better and worse, and others which distinguish what is good and bad: and I placed amongst those which deal with pleasure, the empirical skill, not art, of the cook, and amongst those which have good for their object the art of medicine. And now, by the God of friendship, Calicles, don't be so ill natured as either to jest with me yourself, or answer at random contrary to your real opinion, or again to take what I say as if *I* were joking. For you see that this subject on which we are talking is of a nature to engage the most serious attention of every man of the smallest sense, I mean what course of life one ought to follow; whether it be that to which you invite me, taking part in those manly duties you wot of (*δη*), speaking in the public assemblies and cultivating rhetoric and engaging in public business as you do now a days, or this life of philosophical study; and what it is in which the one differs from the other. Perhaps then it is the best way to distinguish them first, as I attempted to do before, and when we have done that and come to an agreement between ourselves as to whether these two lives really are distinguishable¹, to consider next what is the difference between them and which of the two ought to

¹ *εἰ ἔστι τούτω διττῶ τῷ βίῳ.* Compare Arist. *Vesp.* 58, *ἡμῖν γὰρ οὐκ ἔστ' οὔτε κάρυ' ἐκ φορμίδος δούλω παραρῆπτοῦντε τοῖς θεωμέτοις.* The explanation of this union of singular verb with dual substantive is that the notion presents itself first collectively as a single whole or pair to the writer's mind and is afterwards separated into its parts by the introduction of the dual. Hence it is that in this construction the verb precedes the substantive, as it *usually* does likewise in the analogous case of the Schema Pindaricum or Bœoticum (*ἐν ἧν δ' ὄφασται γράμμασιν τοιαῖδ' ὄφαί.* Eur. *Ion*, 1146, &c. See for examples, Matthiæ, *Gr. Gr.* § 303, Jelf, *Gr. Gr.* § 386). Similar considerations explain the combination of plural substantive and dual verb. In this case the persons or things spoken of in the plural are tacitly divided by the writer into two separate groups or classes so as to form a pair or two pairs. See the examples and authorities quoted by Jelf, *Gr. Gr.* § 388. 1.

be adopted. Perhaps now you don't yet quite understand my meaning.

Cal. No indeed I don't.

Soc. Well I will explain it more clearly. Now that you and I have agreed that there is such a thing as good and also such a thing as pleasant, and the pleasant different from the good, and that there is a particular mode of pursuit and contrivance for the acquisition of either of them, the one the quest of pleasure, the other of good—but first of all let me know whether you assent to as much as this or not: do you?

Cal. I do.

c. 56 *Soc.* Well then to proceed, let us come to an understanding about what I was saying to our friends here, and see whether you think that what I then said was true. What I said was if I remember right, that cookery seems to me to be no art at all but a mere empirical habit; medicine an
501 art; meaning that the one, that is medicine, has inquired into the nature of that which it treats and the causes of what it does, and can give an account of each of them; but the other enters upon the pursuit of the pleasure which is the object of all her care and attention quite unscientifically, without having bestowed any consideration upon either the nature or the cause of pleasure, and proceeds in a manner absolutely irrational, as one may say, without the smallest calculation, a mere knack and routine, simply retaining the recollection of what usually happens, by which you know in fact she provides all her pleasures¹. Now consider first of all whether you think that this account is so far satisfactory, and that there are in like manner certain other occupations of the same sort which deal with the soul, some of them scientific, exercising some forethought for the soul's best interests; and others that pay no regard to this, but again as in the former case, study merely the soul's pleasure, how, that

¹ Compare Aristotle's account of *ἐμπειρία* in the first chapter of his *Metaphysics*. It is possible that his description of it there may be one of his countless obligations to his master.

is, it may be procured for her, neither inquiring which of the pleasures is better or worse, nor concerning themselves with any thing else but mere gratification, whether that be better or worse. For to me Callicles, it seems that there are, and this sort of thing I call flattery whether it be applied to body or soul or anything else, when the pleasure alone is studied without any regard to the better and the worse. And you now, do you coincide with us in opinion upon this matter or dissent?

Cal. Not I, I assent—in order that you may get through your argument, and I oblige my friend Gorgias here.

Soc. And is this true of only one soul, and not of two or many?

Cal. Not so, it is true of two and of many.

Soc. Then is it possible to gratify them in a mass all at once without taking any thought for what is best?

Cal. Yes I suppose so.

Soc. Can you tell me then which are the practices that c. 57 do this? Or rather, if you please, as I ask you, when any of them seems to you to belong to this class say yes, and when not say no. And first of all let us examine the case of flute playing. Don't you think it is one of that sort, Callicles? that it aims only at our gratification and cares for nothing else?

Cal. Yes I do.

Soc. And so with all others of the same kind, for example harp playing, as it is practised in the musical contests?

Cal. Yes.

Soc. And again the Choral exhibitions and dithyrambic compositions, don't they appear to you to belong to the same class? Or do you suppose that Cinesias¹ son of Meles ever

¹ Cinesias was one of the principal living representatives of the modern or florid school of dithyrambic composers, who in the opinion of severe judges had corrupted and debased this species of poetry and its musical accompaniment by the relaxation of the gravity, sobriety, and antistrophic arrangement of its earlier form. Melanippides, contemporary with Cinesias, was the earliest of these innovators. Aristophanes likewise ridicules the wild rambling flights and affected far-fetched phraseology of the modern dithyrambic in the person of

502 troubles himself in the least about the improvement of the audience by anything he says, or merely thinks of saying what will please the mob of spectators?

Cal. There is no doubt about that, Socrates, in Cinesias' case at least.

Soc. And his father Meles again—Did you ever suppose that he looked to what is best in his harp playing? Or rather, *his* aim perhaps was not what is most agreeable either; for he used to annoy the audience by his performance. But just consider; don't you think that all harp music and dithyrambic composition has been invented for the sake of pleasure?

Cal. Yes certainly.

Soc. But what say you now to the object of all the efforts of that stately and wonderful Tragic poetry? Are all her efforts and her pains, think you, bestowed merely upon the gratification of the spectators? or does she strive to the uttermost, if there be anything that is pleasant and agreeable but bad for them, not to say *that*, but if there be aught unpleasant but profitable, *that* to say and to sing whether they like it or not? Which of these two, think you, is the fashion that Tragic poetry assumes?

Cal. There can't be any doubt, Socrates, that she is more bent upon pleasure and the gratification of the spectators.

Soc. Well but this kind of proceeding, Calicles, we said just now is flattery.

Cal. Certainly we did.

Soc. Again, if any kind of poetry be stript of its melody and rhythm and metre, is not the residue plain prose?

Cal. No doubt of it.

Soc. And this prose is addressed to great crowds of people.

Cal. It is.

Cinesias. *Av.* 1373 foll. Compare *Nub.* 332, *Pax.* 827 foll. See on the entire subject, Müller, *Hist. Gr. Lit.* ch. xxx, and on the earlier form of the dithyramb, ch. xiv.

Soc. Consequently poetry is a kind of public speaking.

Cal. So it appears.

Soc. And so it will be a *rhetorical* address to the public. You *do* think, don't you, that the poets in the theatres practise rhetoric?

Cal. Yes I do.

Soc. So then *now* we have found a kind of rhetoric addressed to such a popular audience as consists of a mixture of women and children with men, and slaves as well as free, which we don't altogether approve of, because we say it is of the nature of flattery.

Cal. Quite so.

Soc. Very good. But again, as to the rhetoric that is c. 58 addressed to the Athenian people or to any other popular assemblies of freemen established in the various cities, what are we to say to *that*? Think you that the orators always speak with a view to what is best, with the sole aim of improving the citizens as far as possible by their speeches? Or do they too, bent upon gratifying their fellow-citizens, and sacrificing the public weal to their own private interest, deal with these assemblies as with children, trying only to humour them? and whether they will be better or worse in consequence trouble themselves not at all?

Cal. Your present question is not a simple one like the 503 preceding; for there are some who show a real regard for their fellow-citizens in saying what they say; others there are again such as you describe.

Soc. That's enough. For if this also is two-fold, the one branch of it is, it may be presumed, a trick of flattery and a base kind of popular declamation; the other noble—the attempt, that is, to improve to the utmost the souls of the citizens, and the earnest striving to say what is best, whether that will prove more or less agreeable to the audience. But such rhetoric as this you never yet saw; or if you have any one of this sort to point out amongst the orators, let me know at once who he is.

Cal. No, by my faith, I can't name you any one, at any rate of the orators of the present day.

Soc. Well then, can you name any one of those of by-gone days to whom the Athenians are indebted for any improvement, dating from the commencement of his harangues, from the worse condition in which they were previously? For for my own part *I* don't know who it is.

Cal. What? Haven't you heard of the virtues of Themistocles and Cimon and Miltiades and the famous Pericles who is lately dead¹, whom you have heard speak yourself?

Soc. Yes, Calicles, if that *is* true virtue which you spoke of just now, the satisfaction namely of one's own and other people's desires (this may be all very well); but if this is *not* so, but the truth is what we were forced to admit in the argument that followed, that those desires only which improve a man's character by their gratification should be fulfilled, and those which deteriorate it not, and that there is an art by which this may be effected—can you affirm that any one of these men *has* shown himself such an artist as that?

Cal. I really don't know what to say.

c. 59 *Soc.* Nay if you search well you will find out. So then let us just consider this matter quietly and see whether any of these men has shown himself such— To begin; a good man and one who looks to what is best in everything that he says will not speak at random, will he, but always with some definite object in view? He will proceed in fact just like all other workmen, each with his own proper work in view, selecting anything that he happens to apply towards the forwarding of his work not at random, but for the purpose of giving some particular form to the work that he is engaged upon. Look at the painter for instance, if you please, or the builder or the shipwright, and all other trades and professions, any one

¹ The scene of the dialogue being laid in the year 405 B. C., the word *νεωστ* here is either an oversight on Plato's part—perhaps the more probable supposition—or it must be interpreted with great latitude of a period of twenty-four years. Pericles died in 429 B. C.

of them you please, how each of these disposes everything in 504 a fixed order, and forces the one part into conformity and harmony with the other, until he has constructed a regular and well ordered whole; and the same may be said you know of all other artists; and so with those that we were speaking of just now that deal with the body, trainers and physicians, they likewise it would seem introduce order and system into the body. Do we admit that this is so or not?

Cal. Let it be as you say.

Soc. So then a house in which order and harmony appear will be a good one, and where there is disorder a bad one?

Cal. I allow that.

Soc. And a vessel again in like manner?

Cal. Yes.

Soc. And further in our own bodies do we admit the same principle?

Cal. Yes certainly.

Soc. And how about the soul? Is it by disorder that it will be made good, or by some kind of order and harmony?

Cal. In accordance with our previous conclusions we must needs admit this too.

Soc. What name then do we give to that which arises in the body from order and harmony?

Cal. Health and strength I dare say you mean.

Soc. I do. And what again to that which is engendered in the soul from the same? Try to find the name of it, and tell it me as in the other case.

Cal. And why don't you name it yourself, Socrates?

Soc. Well if you prefer it I will. And you, if you think what I say is right, say so; or if not, refute it and don't let it pass. For my opinion is that order in the body of every kind bears the name of 'healthy,' whence it is that health is produced in it and every other bodily excellence. Is it so or not?

Cal. It is.

Soc. And the name of all the orders and harmonies of

the soul is lawfulness and law, by which also men are made observant of law and orderly; and these are justice and self-control. Do you allow this or not?

Cal. Be it so.

- c. 60 *Soc.* So then it is to this that that genuine orator, the man of science and virtue, will have regard in applying to men's souls whatsoever words he addresses to them, and will conform all his actions; and if he give any gift he will give it, or if he take aught away he will take it, with his mind always fixed upon this, how to implant justice in the souls of his citizens and eradicate injustice, to engender self-control and extirpate self-indulgence, to engender all other virtue and remove all vice. Do you agree or not?

Cal. I agree.

Soc. To be sure, Callicles, for what can be the advantage of offering to a sick and diseased body a quantity of the nicest things to eat and drink or anything else, when, fairly considered, they will do it no more good sometimes than the contrary, nay less¹? Is this so?

- 505 *Cal.* So be it.

Soc. Because I presume it is no advantage to a man to live with his body in a vicious state, since in that case his life also must needs be a vicious² one. It is so, isn't it?

Cal. Yes.

¹ I have followed Stallbaum in the interpretation of this passage, who agrees with Heindorf in understanding *ἢ τοῦναντίον* to mean, 'than not giving it any at all,' *i. e.* entire abstinence. Heindorf, after Cornarius, would prefer to read, *τοῦναντίον, ἢ κατὰ*, "the contrary, or fairly considered even less than that contrary," but this has no MSS. authority. Schleiermacher renders it; 'was ihm bisweilen um nichts mehr dient, oder im gegentheile recht gesprochen, wohl noch weniger,' apparently understanding *ὀνήσει ἔλαττον* in the sense of 'doing harm;' but this is very doubtful Greek.

² *μοχθηρός* 'vicious,' that is, here, 'miserable,' belongs to a large family of words which transfer the signification of physical distress to moral depravity or *vice versa*. Everything which is vicious or depraved is in an unhealthy abnormal condition, diseased and therefore not what it ought to be, or bad. But a life, for example, may be bad or diseased in two different senses, according to the standard which you have in view. Referred to an exclusively moral

Soc. And so again when a man is in health, the physicians for the most part allow him to gratify his appetite, as for instance to eat as much as he pleases when he is hungry or drink when he is thirsty, but a sick man they never so to speak allow to indulge his appetites to the full. Do you agree to this too?

Cal. Yes I do.

Soc. And with the soul, my excellent friend, is it not the same? as long as it is in a bad condition, senseless and self-indulgent and unjust and unholy, we must prevent it indulging its appetites, and not suffer it to do anything but what will make it better? Do you assent, or not?

Cal. I assent.

Soc. For so I presume it is better for the soul itself?

Cal. No doubt of it.

Soc. And is not restraining a man from what he desires correcting him?

Cal. Yes.

Soc. Then correction or restraint is better for the soul than *unrestrained* self-indulgence, as you thought just now.

Cal. I don't know what you are talking about, Socrates? do pray put your questions to some one else.

Soc. Here's a man that can't bear to have a service done him, and to submit to that himself which is the very subject of our conversation, to be corrected.

Cal. Well and I *don't* care a straw for anything that you say, and I only answered you thus far to oblige Gorgias.

Soc. Very good. Then what shall we do? Are we to break off our argument in the middle?

standard it is an immoral life, but measured by the popular notions of happiness and good it is a life of calamity and wretchedness.

In Greek, the words *πονηρός*, *κακός* and *κακότης*, *δειλός*, *δύστηνος*, *μέλεος*, *σχέτλιος*, *ταλαίπωρος*, *τλήμων*, are all employed, by the poets principally, in this double sense. In Latin we have *miser* and *tristis* (*te triste lignum*, Hor. *Od.* II. 13. 11); in French *misérable*; in Italian *tristo* (see Trench, *Proverbs*, p. 37); and in English *wretch* and *wretched*, and *sad*, as a *sad fellow*, a *sad dog*.

Cal. You must decide that yourself (*I don't care*).

Soc. Well they say that we have no right to leave off even one of our stories in the middle, in fact not till we have put a head upon it, that it mayn't wander about like a headless monster. So pray finish your answers, that *our* argument may have a head too.

c. 61 *Cal.* What a tyrant you are, Socrates; if you will take my advice, you will let this argument drop, or else carry on the conversation with some one else.

Soc. Who else *will* then? Surely we ought not to leave off the argument before it is finished.

Cal. Can't you go through with it by yourself, either continuously in your own person, or (by way of dialogue) answering your own questions?

Soc. And so as Epicharmus has it, that 'what *two* men said before' I may show myself equal to single-handed. Well it seems it must absolutely be so. Still if we are to do this, my own opinion is that we ought all of us to vie with one another in trying to discover what is true and what is false in this matter that we are discussing, for it is a common benefit to all that it be made plain. Well then I
506 will carry on the discussion of this question as seems to me to be right; but if any of the admissions that I make to myself appear to any one of you to be untrue, it is his duty to lay hold of it and confute me. For to tell you the truth neither do I myself say what I say as having any certain knowledge, I am only engaged with you all in a search; and therefore if any one that disputes my assertions appear to have right on his side, I will be the first to admit it. This however I say on the supposition that you think the argument ought to be finished: but if you don't like that, let us drop it and go home.

Gor. Well *my* opinion is, Socrates, that we ought not to go away yet, but that you should finish your argument: and I believe the rest of the company agree with me. For

in fact I am myself desirous of hearing you go through the remainder by yourself.

Soc. Well to be sure, Gorgias, I should have been very glad on my own account to have continued the conversation with Callicles here until I had paid him Amphion's speech in return for his Zethus. But since you, Callicles, refuse to join me in bringing the argument to an end, at any rate check me as you listen whenever you think me wrong. And if you refute me I won't be angry with you as you were with me, on the contrary you shall be recorded in my memory as my greatest benefactor.

Cal. Go on, my good sir, by yourself, and make an end of it.

Soc. Then listen to me whilst I resume the argument c. 62 from the beginning. Are pleasure and good the same thing? Not the same, as Callicles and I agreed. Is pleasure to be pursued for the sake of the good, or good for the sake of pleasure? Pleasure for the sake of the good. And is that pleasant which brings pleasure by its presence, and that good which by its presence makes us good? Just so. But further, we ourselves, as well as every thing else that is good, have that character by the acquisition of some virtue or other? In *my* opinion, Callicles, that is necessarily so. But to be sure the virtue of every thing, whether it be implement or body, or again soul or any living creature whatsoever, cannot be acquired best by accident; it must be due to that particular order and rightness and art which is assigned severally to each of them. Is that so? That is certainly my opinion. So then the virtue of everything implies order and harmonious arrangement? *I* should say so. In everything then it is by the introduction of some kind of order, that viz. which is proper to each, that this is in every case made good? I think so. Consequently a soul also when it has its own proper order and harmony is better than one which is devoid of order? Necessarily. But further one which is endowed with order is orderly? Of course it is. And the orderly 50;

soul is 'temperate'? Beyond all doubt. Consequently the temperate soul is good. I have nothing to say to the contrary, my dear Callicles: but if you have, pray inform us.

Cal. Go on, my good sir.

Soc. I proceed then to say, that if the temperate soul is good, that which has the properties contrary to temperance or soundness of mind¹ is bad: and that was one that is devoid of sense and self-control? No doubt. And further the man of sound mind will do what is right towards gods and men? for no man could be sound in mind if he did the contrary? This must needs be so. And again when he does what is right and proper towards men, his actions will be just, and towards the gods pious; but a man who does what is just and pious must needs be a just and pious man? It is so. And to be sure he must be brave too: for certainly temperance or self-control consists not in pursuing or avoiding what one ought not, but in pursuing and avoiding what one ought, whether things or men, or pleasures or pains, and in steadfast endurance at the call of duty. So that we may be fully convinced, Callicles, that the 'temperate' man, as our argument has shown, being just and brave and pious has attained the perfection of goodness, and that the good man does well and fairly all that he does, and that he that *does well* is blessed and happy, and the bad man and evil doer wretched. And this must be the man who is in the opposite condition (of mind) to the temperate, the licentious namely, whom you were applauding.

c. 63 Such then is the view that I take of these matters, and this I assert to be the truth; and if it be true, that every one, as it appears, who desires to be happy must seek after and practise self-control, and flee from licentiousness, every one

¹ The virtue *σωφροσύνη* here appears in a new aspect, that of soundmindedness or sanity, the *mens sana in corpore sano* (its proper meaning in accordance with the derivation), as opposed to *ἀφροσύνη*. We have seen it hitherto contrasted with *ἀκολασία*, the absence of *κόλασις*, correction or restraint, unrestrained self-indulgence; in which view it is properly rendered by self-control.

of us as fast as his feet will carry him, and contrive if possible to stand in no need of correction ; but if he do require it, either himself or any of those connected with him, be it individual or state, then justice must be applied and correction, if he is to have any chance of happiness. Such seems to me to be the aim which a man should keep in view through life, and so act as to concentrate all his own efforts as well as those of the state upon this one object, that justice and temperance may be essential to the attainment of happiness, not letting his desires grow without restraint, and so in the attempt to satisfy them, a never-ending torment, leading the life of a robber. For neither to any man else¹ can such an one be dear, nor to God ; for he is incapable of fellowship, but with one in whom there is no fellowship friendship is impossible. And, Callicles, the heaven and the earth and gods and men, as the wise tell us, are kept 508 together by fellowship and friendship and orderliness and temperance and justice, and this is why, my friend, they give the name of 'order' to yonder universe and not of disorder or licence (unrestraint). But you it seems have not paid attention to this, clever as you are, but have overlooked the mighty power of geometrical equality² in heaven as well as earth. You suppose that a spirit of inequality, the desire of obtaining more than one's fair share, is what ought to be cultivated ; because you don't care for geometry. Well. Either then we must refute this argument that it is by the possession of justice and self-control that the happy are happy, and by that of vice that the wretched are wretched ; or if this be true, we must consider what are its consequences. All those former results follow, Callicles, about which you asked me if I was in earnest, when I said that a man should accuse himself or his son or friend if he do wrong, and that this is what rhetoric should be used for. And what you sup-

¹ "Of all men *else* I have avoided thee." *Macbeth*.

² That is, proportion : which assigns to every man what is his due in accordance with his deserts, and to every thing its due rank and place in a given system.

posed Polus to concede out of mere shame was true after all, that to do wrong is worse than to suffer it in the same proportion as it is baser: and that any one who means to be a rhetorician in any true sense of the word must after all be a just man, and fully acquainted with the principles of justice, which again Polus said that Gorgias was forced by shame to admit.

- c. 64 This being the case, let us consider what amount of truth there really is in all that you taunt me with; that I am unable to help myself or any of my friends or connections, or to rescue them from the greatest dangers; and that, like the outlaws who are at every one's mercy, I am in the power of any one that chooses to slap me in the face, according to your truly spirited expression, or rob me of my property, or expel me from the city, or, worst of all, put me to death: and to be in such a condition is according to your account the very worst of all infamies. But my view you know—and though it has been already repeatedly stated, yet there is no reason why it should not be repeated once more—(is this): I deny, Callicles, that to be slapt on the cheek wrongfully is the worst of all disgrace, or to have my purse cut or my person; but I say that to strike or wound me or mine wrongfully is more disgraceful and worse: aye and stealing besides and kidnapping and housebreaking, and in a word any wrong whatsoever done to me or mine, is worse and more disgraceful to the doer of the wrong than to me who suffer it. All this, which has already been brought before us in an earlier part of our
509 discourse in the way that now I state it, is bound down and fastened—though the expression may appear somewhat too strong¹—with arguments of iron and adamant, as it would

¹ *ἀγροικότερον* is literally 'too rude or coarse, ill-bred or ill-mannered.' This coarseness and want of good breeding may be shown in the expression, either by the absence of refinement and delicacy, in which case the word means, too broad, not sufficiently guarded or reserved, or 'too strong' as I have rendered it; or by a want of modesty, an undue arrogance or presumption, as Stallbaum understands it—which in fact does not materially differ from the other. Schleiermacher has 'derb' 'harsh.'

seem at any rate on the face of it; which you, or some still more gallant and enterprising spirit than yourself, must answer, or else you will find it impossible to speak aright upon the subject in any other language than that which I now use. For I for my part always say the same, that I am ignorant of the true nature and bearings of these things, and yet of all that I have ever encountered as now none has ever been able to maintain any other views without making himself ridiculous. Well then I assume again that it is as I say. But if it be so, and injustice is the greatest of all evils to the wrong doer, and still greater than this greatest, if that be possible, to do wrong with impunity, what sort of help is that which a man must be able to render to himself on pain of being really ridiculous? is it not that which will avert from us the greatest mischief? Nay surely *this* must needs be the kind of help which it is most disgraceful¹ not to be able to render to one's self or one's friends or connections, and second to it the inability to avert the second degree of evil, and the third the third, and so forth; in proportion to the magnitude of each kind of evil, so likewise is the glory of being able to find help against each sort, and the disgrace of failure. Is it so, Callicles, or otherwise?

Cal. Not otherwise.

Soc. Then of the two, doing and suffering wrong, we pronounce doing wrong to be the greater, and suffering it the lesser evil. What provision then must a man make for helping himself in order to secure both of these advantages, those namely which arise from not doing and not suffering wrong? Is it power or will? What I mean is this. Will a man escape suffering wrong by merely wishing not to suffer it, or will he escape it by procuring power to avert it? c. 65

¹ Plato has here fallen into a not uncommon error in expressing himself—attraction Stallbaum calls it—by coupling *αλοχίστην* with *βοήθειαν*, so that he makes Socrates say 'the most shameful help to be unable to render,' whereas it is the inability or failure that is shameful and not the help. This blunder I have, with some misgivings, corrected in the translation.

Cal. Oh *that's* plain enough, by power.

Soc. But what say you to doing wrong? Is the mere wish to avoid injustice sufficient for a man, because in that case he wont do it? or again to effect this must some kind of power or art be provided, because if he do not learn and practise it he will do wrong? This is a point on which I particularly want your answer, Calicles, so tell me at once whether you think there was any real necessity or not for Polus and me to admit as we did in the foregoing argument that no one desires to do wrong, but all that do wrong do it against their will.

510 *Cal.* Let it be as you please, Socrates, that you may get your argument finished.

Soc. Then for this purpose again, it seems, we must provide ourselves with some kind of power or art, to avoid *doing* wrong.

Cal. Yes by all means.

Soc. Then what may be the art that supplies the means of suffering no wrong at all or as little as possible? See if you agree with me as to what it is. For in my opinion it is this: one must either be a ruler—or indeed a tyrant—in one's state, or else a friend of the existing government.

Cal. I hope you observe, Socrates, how ready I am to praise you when you say anything that deserves it. This seems to me to be extremely well said.

c. 66 *Soc.* Then see if you think this well said too. It seems to me that the strongest bond of friendship between man and man is that which the wise men of old tell us of; 'like to like.' Don't you agree with me?

Cal. Yes I do.

Soc. And so where a savage and illiterate ruler is lord and master, if there were any one in the city far better than he, the tyrant it may be presumed would be afraid of him and never could possibly become his friend with his whole heart?

Cal. It is so.

Soc. Nor again the friend of one who was far inferior to himself, any more than the other; for the tyrant would despise him, and never treat him with the attention due to a friend.

Cal. That is true too.

Soc. So then the only friend worth speaking of that is left for such an one is the man who resembling him in character, blaming and praising the same things, chooses to submit to his authority, and to be *subject* to him as his ruler. He it is that will have power in such a state, him none will wrong with impunity. Is it not so?

Cal. Yes.

Soc. Accordingly if in such a city as this one of the young men were to reflect within himself—how can I acquire great power and no one do me wrong?—he has the same path it seems to follow, to accustom himself from his very earliest years to feel delight and displeasure in the same things as his master, and to make himself as nearly as possible like the other: hasn't he?

Cal. Yes.

Soc. And so he will establish for himself a lasting¹ immunity from suffering wrong, and to use your own language, great power in the city.

Cal. No doubt of it.

Soc. And from doing wrong too? or quite the contrary, if he is to resemble the wicked governor and acquire great influence with him? Nay *I* should think that his efforts will be directed to the exact opposite, to the acquisition that is of the power of doing as much wrong as possible, and escaping the penalty for all the wrong that he does. Wont they?

Cal. It seems so.

Soc. So then the greatest of all evils will befall him, to 511 have his soul depraved and deformed by the imitation of his master and the power that he has acquired.

¹ διαπερδεται, *Matth. Gr. Gr.* § 498.

Cal. You have the oddest way, Socrates, of twisting arguments every now and then and turning them upside down. Don't you know that this imitator, as you call him, will put to death any one that does *not* imitate him if he pleases, or strip him of all he possesses?

Soc. Indeed I do, my worthy Callicles, if I am not deaf, so often have I heard it from you and Polus of late, and indeed from nearly every body else in the city. But now do you in your turn hear what I have to say, that he may kill me if he pleases, but it will be a villain killing an honest man.

Cal. Well and isn't this the very thing that arouses one's indignation?

Soc. Not in a man of sense, as our argument indicates. You don't think, do you, that the object of all a man's efforts should be to live as long as possible, and to study those arts which preserve us from dangers; like that for instance which you bid me study, the art of rhetoric, which ensures us safety in courts of justice?

Cal. Yes indeed I do, and very good advice it is.

c. 67 *Soc.* Well but, my excellent friend, do you think the art of swimming a very dignified one?

Cal. No faith not I.

Soc. And yet that too saves men from death when any accident happens to them in which the knowledge of the art is required. But if this appears to you of too trivial a character, I'll mention to you another of more importance than this, the art of navigation, which not only saves men's lives, but their bodies too and goods from the extremest perils, just like rhetoric. And yet this is modest and sober, and does not give itself airs, and throw itself into attitudes, as if it were performing some very extraordinary feat: but for a service at least equal to that of the art forensic, for conveying one safe home, it may be from Ægina, it asks a fee I dare say of a couple of obols; or if it be from Egypt or the Pontus, at the utmost in return for this important service, for carrying

safe as I said just now self and children and goods and women (i. e. female slaves and their mistress), when it has landed them all in the harbour its fare is a couple of drachmas: and the possessor of the art himself after he has done all this gets out and takes his walk by the shore alongside of his vessel with a perfectly unassuming demeanour. For he knows I dare say how to take into account that it is quite uncertain which of his passengers he has done a service to by saving them from drowning, and which of them he has injured, fully aware that he has landed them not a bit better than they were when they went on board in body or soul. 512 He reflects accordingly that it cannot be that a man who has escaped drowning whilst he labours under the affliction of great and incurable *bodily* diseases is miserable in that he has been preserved from death, and has received no benefit from him at all—and yet that one who is laden with many incurable diseases in that which is so much more precious than the body—in the soul—that *he*, I say, should be allowed to live on, and that he did *him* service in rescuing him whether it be from the sea or a lawcourt or anywhere else you please—No, he knows that it is better for man in a vicious state *not* to live, for he must needs live ill.

This is why it is not the fashion for the pilot to give him- c. 68 self airs, though he *does* save our lives. No nor the (military) engineer either, my worthy friend, though he *has* sometimes the power of saving lives just as much as a general—to say nothing of a pilot—or any one else. For sometimes he saves whole cities. Think you he is to be compared with the lawyer? And yet if he chose to talk and magnify his business as you do, Callicles, he might overwhelm you with his words, arguing and urging upon you the duty of making yourselves engineers, for there is nothing else like it: for he would have plenty to say for himself. Still you none the less look down upon him and his art, and as a term of reproach would nickname him 'the machine maker,' and you wouldn't consent to bestow your daughter upon his son,

nor to take his yourself for your own. And yet on the principles upon which you extol your own pursuits, what fair excuse have you for despising the engineer and all the rest that I just now mentioned? I know you would say that you are a better man and better born. But if 'better' does not mean what I say it does; if virtue means this and nothing more, to save one's self and what belongs to one, whatever one's character may chance to be, your contempt for the engineer and the physician and all the other arts which have been invented with the object of saving men's lives becomes ridiculous. Nay, my dear fellow, see to it, whether the noble and the good be not something quite different from saving and being saved.

Consider whether the true man ought not to disregard this, I mean any particular length of life¹, and to renounce all love of mere life; ought not rather to leave all this to the will of heaven, and, believing what the women say that no one can escape his destiny, consider hereupon how he may best
513 pass his allotted portion of life; whether it be in assimilating himself to any form of government under which he may happen to live, and so now accordingly, whether *you* are bound to make yourself as like as possible to the Athenian people, if you mean to gain its affections and acquire great power in the city. Consider whether this is really beneficial to you and me, that we mayn't meet with the fate of the Thessalian women who draw down the moon from heaven²: upon the

¹ I have here, for once, abandoned the Zurich text which is adopted by Stallbaum, and followed the old reading retained by Heindorf, Buttman, and Ast, *μη γὰρ τοῦτο μὲν, τὸ ζῆν ὀπίσσω δὴ χρόνον κ.τ.λ.* The negative is implied in *μη ἐατέον*, as it so often is in interrogative sentences beginning with *οὐκοῦν*, and in other cases. It seems to me that in the reading of the Zurich Editors, which is taken from the Vatican MS., there is no proper and reasonable opposition between *τοῦτο μὲν τὸ ζῆν* and *ὀπίσσω δὲ χρόνον*, and that the construction of the whole is intolerably awkward. The validity of Stallbaum's explanation rests mainly upon his interpretation of *δέ* by 'immo;' but he would have found it difficult to produce another example of the particle used with a similar emphasis.

² *ἐλρηται ἡ παροιμία ἐπὶ τῶν ἐαυτοῖς κακὰ ἐπισπωμένων.* Suid.

choice of this power in the state our dearest interests will be staked. But if you suppose that any one in the world can impart to you such an art as will raise you to great power in the state without being like the government either for the better or worse, it seems to me, Callicles, that you are very ill advised: for you must be not a mere imitator but radically like them, if you mean to effect any thing genuine in the way of friendship with Demus the Athenian people, aye faith and with Demus the son of Ppyrilampes to boot. Whoever therefore shall produce in you the nearest possible resemblance to them, he it is that will make you a statesman, in the sense in which you desire to be a statesman, and a rhetorician: for with words accommodated to their own character every body is pleased, but such as are adapted to a foreign one they dislike—unless you have any thing to say to the contrary, my darling. Have we (*insinuatingly*) anything to say¹ against all this, Callicles?

Cal. Some how or other, Socrates, there seems to me to c. 69
be truth in what you say. But I feel as most people do, I don't quite believe you.

Soc. That's because the love of Demus has planted itself in your soul and resists me, Callicles; but if perhaps we were to examine these same questions often over again and better, you'd be convinced. Remember however that we said that there are two processes which may be adopted in training anything, whether body or soul, one to make its pleasure the object of all our dealings with it; the other what is best for it, not humouring it, but striving against it to the uttermost. This is the distinction that we drew before, is it not?

Cal. Yes, certainly.

Soc. Well then, the one, that which is directed to pleasure, is ignoble and nothing but flattery, is it not?

Cal. Be it so, if you please.

Soc. And of the other the object is to make that which

¹ Read λέγομεν with v. l. and Stallbaum. The Zur. Edd. give λέγωμεν.

we have charge of, whether it be body or soul, as good as possible?

Cal. Yes, no doubt.

Soc. Ought not then our object to be in undertaking the care of our city and its citizens to make them as good as possible? For without this, you know, as we found in our preceding argument, there is no use in offering any other
514 kind of service, unless, that is, the thoughts and intentions of those who are to acquire either wealth or authority over others or any other kind of power be honest and virtuous. Are we to assume this?

Cal. Yes, by all means, if you prefer it.

Soc. Supposing then that you and I, Callicles, in the ordinary course of public business¹, were inviting one another to undertake the building department, the most important structures it may be of walls or docks or temples, would it have been our duty to consider and examine ourselves, first of all whether we are acquainted or not with the art of building, and from whom we learnt it? would it, or not?

Cal. Yes no doubt.

Soc. And again, in the second place, whether we have ever erected any building for private use, either for one of our friends or ourselves, and whether this building is handsome or ugly? And if we found upon consideration that we had had good and well-reputed masters, and that many handsome buildings had been erected by us under our masters' direction, and many by ourselves of our own, after we had parted from our masters; under such circumstances men of sense might be permitted to undertake public works; but if we had no master of ourselves to produce, and of buildings either none at all, or ever so many and all worthless, surely

¹ The *aoiist* participle *πράττοντες* denotes, as Stallbaum observes, *quod quis jam facere instituit*. It would be more fully rendered by the addition of the words 'in which we had engaged' or something equivalent; but as this is rather too long for the translation of a single participle, I have endeavoured to express the notion by the words 'ordinary course.'

in this case it would be the height of folly to attempt public works, and invite one another to undertake them. May we pronounce this to be correct, or not?

Cal. Yes, certainly.

Soc. And similarly with the rest; supposing for instance¹ we had undertaken the office of state-physicians, and were inviting one another to it as thoroughly well qualified for the task, our first step would be, I presume, to examine one another's qualifications, you mine and I yours. Marry now, let us see, how stands the case with Socrates in regard of the health of his own body? or has any one else, slave or free man, ever yet been cured of a disease by means of Socrates? And I again, I dare say, should have made exactly similar inquiries about you. And if we found that we had never been the means of making any one better in his bodily health, citizen or stranger, man or woman, in heaven's name, Callicles, would it not be truly absurd that human beings should ever be brought to such a pitch of folly as to begin with the wine-jar in learning the potter's art, as the saying is, you know, and before they had in their private practice, often failing it may be, and often succeeding, exercised themselves sufficiently in the art, undertake to serve publicly as physicians themselves and invite others like them to do the same? Don't you think it would be folly to act so?

Cal. Yes I do.

Soc. And now, my excellent friend, as you yourself are 515 just beginning to enter into public life, and are urging me to do the same, and reproaching me for not doing it, shall we not examine one another, as thus, Let us see, has Callicles ever yet made any of the citizens better than he was before? Is there any one of them who was before wicked, unjust and licentious and foolish, and by Callicles' means has been made an honest man, stranger or citizen, bond or free? Tell me, Callicles, if any one examines you thus, what will you say?

¹ τὰ τε ἄλλα, καί...

What human creature will you claim to have improved by his intercourse with you? Do you hesitate to answer, if you *have* anything to show which you have done in your private capacity as a preliminary to engaging in public business?

Cal. You are captious, Socrates.

Soc. Nay it is not out of captiousness that I put the question but from a real wish to know what you think your duty as a public man is in our city, whether, that is to say, we shall find you (*ῥήμιον*) concerning yourself about anything else in your administration but making us citizens as good as possible. We *have* already several times admitted, haven't we, that this is the statesman's proper business? Have we admitted it or not? Answer me. We have; I will answer for you. If then this is what a good man is bound to effect for his native city, now call to mind those men whom you mentioned just now, Pericles, and Cimon, and Miltiades, and Themistocles, and tell me if you still think that they approved themselves good citizens.

Cal. Yes I do.

Soc. Well then if they were good, it is plain that every one of them made the citizens better than they were before. Did they do so, or not?

Cal. They did.

Soc. Accordingly when Pericles began to speak before the People the Athenians were worse than when he made his last speeches?

Cal. Perhaps.

Soc. Not *perhaps* at all, my very good sir: it follows *necessarily* from our admissions, if at least he was a good statesman.

Cal. Well what then?

Soc. Oh nothing. Only just tell me this as well, whether the Athenians are commonly said to have owed any improvement to Pericles, or just the contrary, to have been corrupted by him. For what *I* hear is this, that Pericles has made the

Athenians lazy and cowardly and talkative and greedy, by establishing first the system of fees.

Cal. You hear all that from those broken-nosed¹ gentry, Socrates.

Soc. Aye but *this* I don't hear merely, but know full well, and so do you, that first of all Pericles was popular with the Athenians, who never passed a sentence upon him involving any disgrace as long as they were 'worse;' but as soon as they had been made by him thoroughly honest and 516 good men, at the end of Pericles' life they found him guilty of peculation, and nearly condemned him to death—plainly because they thought him a rogue.

Cal. What then? did *that* make Pericles a bad man? c. 72

Soc. At all events a herdsman of that sort who had the care of asses or horses or oxen would be thought a bad one, if the animals which he took under his charge free from all propensity to kick or butt or bite turned out under his management given to all these tricks out of mere wildness. You would call, wouldn't you, any keeper of any animal whatsoever a bad one who makes those which he has received under his charge tame and gentle wilder than they were when he took them? Would you do so or not?

Cal. Oh yes, by all means, to oblige you.

Soc. Then oblige me still further by answering this one question whether man too is one of the animal creation or no?

Cal. Of course he is.

Soc. And had not Pericles the charge of man?

Cal. Yes.

Soc. Well then, ought they not, as we agreed just now,

¹ I have here taken a liberty with the Greek text by substituting the *nose*, the aim of modern boxers, and the mark of addiction to such exercises, for the *ears* which told the same tale to the Athenian public. The unpatriotic 'Laconisers,' the admirers of Spartan habits institutions and policy, are here indicated. Explanatory references are given in Stallbaum's note.

to have been improved by him in justice if they really were under the care of a good statesman.

Cal. Yes certainly.

Soc. Well and the just are tame and gentle, as Homer said¹. But what say you? Is it not so?

Cal. Yes.

Soc. But yet he made them wilder and more savage than they were when he took them in hand, and that against himself, the very case in which he would least have desired it.

Cal. Do you want me to agree with you?

Soc. Yes if you think I speak the truth.

Cal. Then let it be as you say.

Soc. And accordingly if wilder, more unjust and worse.

Cal. Be it so.

Soc. So then it follows from what we have said that Pericles was *not* a good statesman.

Cal. So *you* say.

Soc. Faith and so must *you* say too, after the admissions you just made. And now again about Cimon, tell me; did not those whom he tended ostracise him in order that they mightn't hear the sound of his voice for ten years? And didn't they treat Themistocles in the very same way, and punish him with exile to boot? and Miltiades the hero of Marathon they sentenced to be thrown into the pit, and had it not been for the president into it he would have been thrown. And yet these men had they been good in the way that you describe them, would never have been treated thus. At all events good drivers don't keep their seat in the chariot at the commencement of their career, and *then* get thrown out after they have trained their horses and improved themselves in driving. This is not the case either in charioteering or in any other business whatsoever. You don't think so, do you?

Cal. No, not I.

517 *Soc.* So then what we said before was true, that we know

¹ *Odys.* ζ'. 120.

no one who has approved himself a good statesman in this city of ours. You admitted this of the men of the present day, but (urged that) some of those of former times (were entitled to be so regarded), and to these men you gave the preference. But these now turn out to be on a par with the men of the present day; and therefore if these were orators, they employed neither the genuine art of rhetoric, else they would not have lost the popular favour, nor the flattering sort of it.

Cal. But surely, Socrates, none of the present generation c. 73 has ever done anything like such deeds as one of those others, any one of them you please.

Soc. My dear sir, neither do I find any fault with them, at least as ministers in the state's service, on the contrary I think they have shown themselves more dexterous ministers than the men of our time, and better able to provide the city with all that she desired. However in changing the direction of the citizens' desires instead of giving way to them, leading them by persuasion or compulsion to that which would improve their character, in all this so to speak these were in no respect superior to the others: and yet this is the only business of a good statesman. But as to providing ships and walls and docks and a variety of other such-like things, I grant you myself that these men were cleverer than the others. So it seems you and I are doing an absurd thing in this argument of ours. For during the whole time that our conversation has lasted we have never ceased coming round constantly to the same point and misunderstanding one another's meaning. I at all events believe that you have admitted ever so many times and decided that this business of dealing with either body or soul is two-fold, and that the one of these is ministerial; whereby meat may be provided for our bodies when they are hungry, and drink when they are thirsty, and when cold clothing, bedding, shoes, or anything else that bodies are led to desire. And I purposely use the same images in my illustration that you may the more easily understand me. For as to being capable of supplying such

things, either as a shopkeeper or merchant, or maker of any of the things themselves, baker or cook or weaver or shoemaker or tanner—it is no wonder, I say, that a man being such should fancy himself and be considered by others as one who takes care of the body; by every one, that is, who is not aware that there is besides all these an art of medicine and gymnastics which really is a training of the body; which has in fact a natural claim to authority over all the arts, and a right to make use of their works, because it knows what is good and bad in meat and drink for promoting a perfect condition
 518 of body, of which all those others are ignorant; and so it is that all these are servile and ministerial and illiberal in their treatment of the body, I mean all the rest, and medicine and gymnastics have a fair claim to be their mistresses. That I maintain the very same to be the case with the soul you seem to me at one time to understand, and admit it as though you knew what I meant; and then by and by you come and tell me that men in our city have shown themselves citizens of sterling worth, and when I ask you who, you seem to me to put forward men of exactly the same sort in statecraft, as if when I asked you who are or ever have been good trainers of the body in gymnastics you told me quite seriously, Thearion the baker, and Mithæcus the author of the treatise on Sicilian cookery, and Sarambus the vintner, *these* are they that have shown marvellous skill in training men's bodies by supplying the one admirable loaves, the second entrées, and
 c. 74 the third wine. Now perhaps you would have been offended if I had said to you, My friend, you know nothing at all about gymnastics: you tell me of a parcel of fellows, ministers and caterers to men's appetites, with no sound and true knowledge of them whatever, who, very likely, will first stuff and fatten men's bodies—applauded by them for it all the while—and *then* make them lose even the flesh they had of old. *They* in their turn from ignorance will not throw the blame of their diseases and the loss of their old flesh upon those who thus indulge them; but whoever happen to be

near them at the time or to offer them any advice, just at the moment when the original stuffing and pampering, carried on as it was without the least regard to what is wholesome, has at length, it may be ever so long after, brought disease upon them, *them* they will accuse and find fault with and do them a mischief if they can, whilst they will applaud those earlier advisers, the real authors of the disaster. And you, Callicles, are now doing something precisely similar: you are applauding men who have indulged those charges of theirs with all the good things that they desired. And people say that they have made the city great: but that it is mere swelling¹ and internal ulceration that has been brought about by these famous statesmen of old, they do *not* perceive. For disregarding temperance and justice they 519 have stuffed the city with harbours and docks and walls and tribute and suchlike nonsense: and so whenever the fit of sickness we spoke of actually comes, they will lay the blame upon their then present advisers, and applaud Themistocles and Cimon and Pericles, the authors of all the mischief: and when besides their subsequent acquisitions they have lost all that they originally had into the bargain, they will probably lay hold of you, if you don't take good care, and my friend Alcibiades, who though not the immediate authors of all the mischief are yet perhaps partly to blame for it. There is however one senseless thing which I see happening now, and hear of the men of the past generation. Whenever, that is, the city takes one of these public men in hand as a wrongdoer, I hear them venting their indignation with loud outcries against such shameful treatment: 'so then after all their long and valuable services to the city the return she makes is injustice and ruin,' according to their story. But all this is entirely false. For there is no single instance in which the ruler of a city could ever be unjustly brought to ruin by the

¹ "Where great additions swell's and virtue none,
It is a dropsical honour."

All's Well that ends Well, II. 3. 124.

very city over which he bears rule. For the case appears to be precisely the same with those that pretend to the name of statesmen as with those who profess the sophistical art. The sophists in fact with all their cleverness in everything else in this one point are guilty of an egregious absurdity: for claiming to be teachers of virtue they often charge their pupils with wronging them by cheating them of their fees and in other respects showing them no gratitude for all the service they have done them. Now what can be more unreasonable than such language? That men after they have been made good and just, after all their injustice has been eradicated by their teacher and justice planted in its stead, should commit injustice by means of that which they have not. *Does not this seem to you absurd, my friend? You have really forced me to make quite a speech, Callicles, by refusing to answer.*

c. 75 *Cal.* So you then pretend that you can't speak unless some one answer you?

Soc. It seems I can. This time at any rate I have gone on talking a good while, because you wont answer me. Come now, my good fellow, tell me in the name of the god of friendship, don't you think it *is* unreasonable for a man to profess to have made another good, and then, after he has been made by him and still is good, to find fault with him for being bad?

Cal. Yes, I do think so.

Soc. Well and you hear, don't you, those that profess to train men in virtue say such things?

520 *Cal.* Yes I do. But what is to be said [what's the use of talking] of such a worthless set of fellows?

Soc. And what is to be said of those who, pretending to control the state and to take care that it be made as good as possible, turn round upon her when the occasion arises, and accuse her of being as bad as she can be? Think you there is any difference between these and the others? The sophist and the orator, my dear fellow, are the same thing, or as

nearly as possible alike, as I said to Polus. But you for want of knowledge think the one, rhetoric, a very fine thing, and the other you despise. Whereas in truth sophistic is a finer thing than rhetoric, in proportion as legislation is superior to the administration of justice, and gymnastics to medicine. In fact for my own part I always thought that public speakers and sophists were the only class of people who have no right to find fault with the thing that they have themselves trained for behaving ill to them; or else they must at the same time by these very same words charge themselves as well with having done no good to those that they pretend to benefit. Is it not so?

Cal. Yes, quite so.

Soc. Aye, and they alone might be expected according to all probability to have the power of bestowing their services freely without fee or reward, if what they say were true. For a man when he has received any other benefit, as for instance if he has been taught to run fast by a trainer, might perhaps cheat him of his reward, supposing the trainer gave him his services for nothing, and made no agreement with him for a fee which was to be paid as nearly as possible at the very moment of imparting to him the speed in question: for it is not by slowness of foot I conceive that men do wrong, but by injustice; isn't it?

Cal. Yes.

Soc. And so if any one removes from others this particular vice, that is injustice, he need never be afraid of being unjustly treated; but this benefit alone can be bestowed for nothing with security—supposing that is, that any one really has the power of making men good. Is it not so?

Cal. I allow it.

Soc. This then, it appears, is the reason why there is no c. 76 disgrace in taking money for giving advice of any other kind, as about building or the rest of the arts.

Cal. So it seems.

Soc. But about this particular process of making a man

as good as possible, and enabling him to manage to the best advantage his own household or a state, it is reckoned disgraceful to refuse to give advice without receiving money for it. Isn't it?

Cal. Yes.

Soc. The reason plainly being this, that this is the only kind of service that makes the recipient desire to requite the benefit; and therefore the symptom seems a favourable one [of something having been really taught], when any one after having performed this particular service is repaid for it; and if not, the contrary [an unfavourable one]. Is this as I say?

521 *Cal.* It is.

Soc. Then tell me definitely which of those two modes of serving the state it is that you invite me to? that of carrying on a constant struggle with the Athenians, like a physician, to make them as good as possible, or (of behaving) as one that would minister to all their humours and deal with them solely with a view to their gratification? Tell me the truth, Callicles: for you are bound, as you began by speaking your mind so freely to me, to go on now and tell me all that you think. So now pray speak out fairly and frankly.

Cal. I say then, as one that would minister to them.

Soc. Then, my very ingenuous friend, you invite me to play the flatterer.

Cal. (angrily). You may call yourself a Mysian¹, if you like it better, Socrates; for if you don't do as I say—

¹ The proverb *Μυσῶν λεία* is plainly *not* alluded to here, except so far as it shows the low estimation in which the Mysians were held by the Greeks. The proverb is explained by Aristotle, *Rhet.* I. 12. 20, to mean 'an easy prey,' and is applied to *τοὺς ὑπὸ πολλῶν ἀδικηθέντας καὶ μὴ ἐπεξεληθόντας*; whence it appears that the Mysians were regarded as pusillanimous and feeble, unable to protect themselves from injury or resent it when inflicted; and the national designation of Mysian, like that of Carian, passed into a by-word and a term of reproach. Socrates had implied in his last observation that if he took Callicles' advice he should render himself liable to be called a flatterer; to this Callicles angrily replies; you may call yourself something worse if you please,

Soc. Don't repeat what you have said so often, that I am at the mercy of any one that chooses to put me to death, that I may not be obliged to repeat in my turn, that it will be the case of a rogue putting to death an honest man: nor that any one can strip me of all that I have, that I may not be obliged to say in my turn, Well, but after he has done so, he wont know how to use what he has got, but as he robbed me wrongfully so in like manner he will employ wrongfully what he has taken; and if wrongfully then basely; and if basely then ill (mischievously, to his own detriment).

Cal. It seems to me, Socrates, that you don't believe in c. 77 the possibility of your meeting with any one of these calamities, as though you were dwelling far out of harm's way, and never could be dragged into a court of justice by some perhaps utterly wretched¹ and contemptible fellow.

Soc. Then I must indeed be a fool, Callicles, if I think that in this city of ours any one whatsoever is exempt from the risk of any possible form of calamity. Of this however I am quite sure, that if I ever am brought before a court of justice and incur any of those risks you speak of, it will be some villain that brings me there: for no honest man would ever prefer a criminal charge against an innocent person. Aye and it were no marvel if I were condemned to death. Would you have me tell you why I expect this?

Cal. Yes, by all means.

Soc. I think that I am one of very few, not to say the only man in all Athens, that attempts the true art of Politics, and that I am the only man of the present day that performs his public duties at all. Seeing then that the gratification of my hearers is never the object of the discussions that I am in the habit of taking part in, that they aim at what is best, not what is most agreeable, and because I don't choose to do those fine clever things that you recommend, I shall have not

a poor-spirited contemptible wretch, unable to protect or avenge yourself, like a Mysian.

¹ See note 2, p. 98.

a word to say before the tribunal. And the same case may now be applied to me as I was describing to Polus: for I shall be like a physician tried before a jury of children on a charge brought by a cook. Only consider what defence a man like this would make in such a predicament, if the prosecutor were to open his case thus: My dears, here's a man that has done you all (*καὶ αὐτοὺς*) a vast deal of mischief, and even the very youngest of you he maims for life by 522 cutting and burning, and drives you to your wits' end by starving and choking you, administering the bitterest draughts and forcing you to abstain from eating and drinking; not like me, who used to feast you with every variety of nice things in abundance. What think you that a physician reduced to such a strait would find to say for himself? Or supposing he were to say the truth, All this I did, my boys, for your health—how great think you would be the outcry that such judges would set up? a loud one, wouldn't it?

Cal. I dare say: one would think so.

Soc. Don't you suppose then that he would be utterly at a loss what to say?

Cal. Certainly he would.

c. 78 *Soc.* Such however I well know would be my own fate if I were brought before a court of justice. For I shall have no pleasure to describe that I have provided for them; which *they* account as benefits and services—whereas I envy neither those that procure them nor those for whom they are procured—and if any one charges me either with corrupting the juniors by perplexing their minds with doubts, or with reviling the seniors with bitter words either in private or in public, I shall not be able to tell them either the truth, 'all this that I say is right, and it is your interest, alone, o my judges, that I am serving in acting thus,' or indeed anything else. And therefore very likely there is no saying what my fate may be.

Cal. Do you think then, Socrates, that a man in such a

condition and unable to help himself cuts a good figure in a city?

Soc. Yes, Callicles, he would if he had that advantage which you have so often admitted; if he had 'helped himself' by never having said or done any wrong either to men or gods. For this we have repeatedly allowed to be the best of all possible kinds of self-help. Now were I to be convicted of incapacity for rendering help of this kind to myself or another, of *such* conviction I should be ashamed whether it took place before many or few or by myself alone; and if my death were due to *this* kind of incapacity I should indeed be vexed. But if it were for want of your 'flattering' rhetoric that I died, I am very sure you would see *me* meet my death with calmness and composure. For death itself no man fears, unless he be an absolute fool or coward; it is doing wrong that a man fears: for to arrive at the world below with the soul laden with many offences is the uttermost of all evils. And now, if you please, I'll tell you a tale to show you that this is really so.

Cal. Well as you have done all the rest, you may as well finish this too.

Soc. 'Listen then,' as they (the story-tellers) say, 'to a c. 79 very pretty story;' which you, I dare say, will take for a fable, 523 but I regard as a true story: for all that I am about to say I wish to be regarded as true.

Zeus Poseidon and Pluto, as Homer¹ tells us, divided amongst themselves the empire which they derived from their father. Now in the days of Cronus there was a law concerning mankind, which still at the present day as ever prevails in heaven, that every man who has lived a just and holy life departs after death to the Islands of the Blest, and there dwells in perfect happiness beyond the reach of ill; but whosoever has led a life of injustice and impiety is consigned to the dungeon of vengeance and punishment, which, you know, they call Tartarus. Of these

¹ *Il.* xv. 187 foll.

there were in the days of Cronus, and still are in more recent times under the empire of Zeus, living judges of living men, who were appointed to sit in judgment upon every man on the very day on which he was to die. And so the cases were (often) decided amiss. So Pluto and the guardians from the Isles of the Blest came and reported to Zeus how that men undeserving were constantly coming to them as well as to the other place. So spake Zeus: Nay, said he, I will put an end to this. For true it is that now the cases are ill judged. And this is because they that are brought to trial are tried with their clothes on, seeing that they are tried alive. Now many, said he, whose souls are wicked are clothed with fair bodies and nobility and wealth, and at the judgment many witnesses appear to testify on their behalf that their lives have been passed in justice. So the judges are confounded not only by their evidence, but at the same time because they themselves sit in judgment wrapt in clothes, with the veil of eyes and ears and indeed of the entire body interposed before their own soul. All this therefore stands in their way, their own wrappings as well as those of them that stand before their bar. First of all then, he continued, we must put an end to their foreknowledge of their own death, for now they have this foreknowledge. This however Prometheus has already received my orders to put a stop to. Next they must be stript of all these clothes before they are brought to trial; for they must be tried after death. The Judge too must be naked, dead, with very soul scrutinising the very soul of each the moment after his death, each man bereft of the aid of all his friends and relations and with all that ornamental furniture left behind him upon earth that the judgment may be just. Knowing all this before yourselves, I have already appointed judges sons of my own, 524 two from Asia, Minos and Rhadamanthus, and one from Europe, Æacus: These three after their death shall sit in judgment in the Meadow at the Cross Roads, whence the two lead, one to the Isles of the Blest, the other to Tartarus.

And the souls from Asia Rhadamanthus shall try, and those from Europe Æacus : and upon Minos I will confer the privilege of deciding in the last resort (or, reviewing their sentence) in case of doubt on the part of the other two, that the judgment upon man's final journey may be perfectly just.

This, Callicles, is what I have heard and believe to be true, c. 80 and I reckon that from these tales may be drawn some such moral as this. Death, as it seems to me, is nothing but the dissolution, the parting from one another, of two things, the soul and the body. And accordingly after their separation, each of them retains its own state and condition pretty nearly the same as it had when the man was alive, the body retaining its own nature with the results of its training and its accidental affections, all quite visible. For instance, if any one's body was of great size either naturally or by feeding or both, whilst he was alive, his corpse will be of great size too after he is dead : and if he was fat, it will be just as fat after his death ; and so on for the rest. Or if again he adopted the fashion of wearing his hair long, his dead body in like manner will have long hair. Again if any one had been flogged and bore traces of the stripes in the shape of scars on his body, whether these were left by the scourge or by wounds of any other kind, in life, his body visibly retains the marks of them when the man is dead. And if the limbs of any one were broken or distorted in life the very same will be visible in death. And in a word, whatever characteristics a man's body presented in life, the same likewise are visible in it after his death, all or most of them, for a certain time. And so, Callicles, it seems to me, the very same is the case with the soul also ; when a man's soul is stript of its bodily covering, all its natural properties, as well as those accidental ones which the man's soul contracted from his various habits and pursuits, are visible in it. So as soon as they are arrived at the place of judgment, they of Asia before Rhadamanthus, them Rhadamanthus sets before him, and examines each man's soul, not knowing whose it is ; nay often when he has laid

hold upon the Great King himself, or any other prince or potentate, he detects at once the utter unsoundness of his soul, deeply marked by the scourge and covered with wounds inflicted by perjury and iniquity, of which its own acts have
 525 left the print on each individual soul; full of distortion arising from falsehood and imposture, and all crooked by reason of its having been reared without truth: or from power and pride and insolence and incontinence finds the soul laden with disproportion and ugliness. When he has found such an one he sends it away in disgrace straight to the place of ward, where on its arrival it is doomed to endure all the sufferings that are its due.

- c. 81 Every one who undergoes punishment, if that punishment be rightly inflicted by another, ought either to be made better thereby and derive benefit from it, or serve as an example to the rest of mankind, that others seeing the sufferings that he endures may be brought by terror to amendment of life. Now those who derive benefit from the punishment which they receive at the hands of Gods and men are they that have been guilty of remediable offences: yet still the benefit both here and in the world below is conveyed to them through the medium of pain and suffering; for in no other way can the release from iniquity be effected. But all those that have done extreme wrong and by reason of such crimes have become incurable, these are they of whom the examples are made: and these are no longer capable of receiving any benefit themselves, seeing that they are incurable, but others are benefited who behold them for their transgressions enduring the severest most painful and most fearful sufferings in that prison house in the world below, time without end; hung up as signal examples there, a spectacle and a warning to the wicked as they continually arrive. Of whom I say Archelaus too will be one, if what Polus tells us is true, and every other tyrant that resembles him. And I believe that the majority of these examples is derived from tyrants and kings and potentates and ministers of the affairs of states: for they by reason of

the licence that they enjoy are usually guilty of the greatest and most impious transgressions. Homer too is a witness to the truth of this; for he has introduced kings and lords, Tantalus and Sisyphus and Tityus, as those who are suffering everlasting punishment in the lower world. But Thersites or any other private person that was wicked no poet has described as incurable and therefore subjected to any heavy punishment; because no doubt he wanted the power, and therefore was so far happier than those that had it. However, Callicles, be that as it may, it is to the class of the powerful that the men who are distinguished for wickedness actually belong. Still there is nothing to prevent good men being found even 526 amongst these, and eminently worthy of admiration are those that prove themselves such: for it is hard, Callicles, and highly praiseworthy for a man to lead a just life when he has full liberty of doing wrong. But small indeed is the number of such: for true it is that here and elsewhere there *have* been, and I don't doubt there will be hereafter, men thoroughly accomplished in this virtue, the virtue of administering justly all that has been confided to their care. And one there has been very celebrated indeed, whose fame is spread all over Greece, Aristides son of Lysimachus. But most powerful men, my good friend, turn out bad.

So as I was saying, whenever such an one appears before c. 82 that Rhadamanthus we spoke of, he knows nothing else about him whatsoever, neither who he is nor whence derived, except that he is a bad man: and as soon as he discovers this he sends him away at once to Tartarus, with a mark set upon him to show whether he is curable or incurable; and upon his arrival there he is submitted to the sufferings appropriate to his case. And sometimes, when he sets his eyes upon another soul that has lived a holy life in the society of truth, a private man's or any other's, especially as I should say, Callicles, that of a philosopher who has attended to his own business, and not meddled in the affairs of (public) life, he is struck with admiration and sends it off to the Isles of the Blest. Precisely

the same is the practice of Æacus. And each of these two sits in judgment with a rod in his hand. But Minos sits alone overlooking the proceedings holding a golden sceptre, as Ulysses in Homer says that he saw him,

‘Wielding a sceptre of gold, and judging amongst the Departed.’

Now for my part, Calicles, I am convinced by these stories, and I consider how I may appear before my judge with my soul in its healthiest condition. So renouncing the honours which are the aim of the mass of mankind I shall endeavour in the search after truth really to the utmost of my power to lead a life of virtue and so to meet death when it comes. And all other men I invite likewise to the best of my ability, and you especially I invite in return to this course of life and this conflict, which I say is worth all other conflicts here on earth put together; and I retort your reproach, that *you* will be unable to help yourself when that trial and that judgment comes upon you of which I was even now speaking; 527 but when you appear before your judge, the son of Ægina, and he lays hold on you to drag you to his bar, *you* will stand with open mouth and dizzy brain, you there no less than I here, and some one perchance will smite you, yea shamefully slap you in the face, and treat you with every variety of insult.

All this however may perhaps seem to you a mere fable, like an old wife's tale, and you look upon it with contempt. And there would have been no wonder in our despising it, if we could have found by any amount of search anything better and truer. But as it is, you see that you three, three of the wisest of the Greeks of our time, you and Polus and Gorgias, are unable to prove that we should lead any other life than this, which appears to be of advantage to us for the other world as well as this; but amidst the multitude of questions that we have been arguing, whilst all the rest were refuted this doctrine alone stands unshaken, that doing wrong is to be more carefully avoided than suffering it; that before all things a man should study not to *seem* but to *be* good in his

private and public life; that if a man become bad in any respect, he is to be corrected; and that this is good in the second degree, next to *being* just to *become* so, and to be corrected by punishment: and that all kinds of 'flattery,' whether of oneself or others, of few or of many, are to be avoided: and that rhetoric, as well as every other kind of action, is to be employed ever for the maintenance of the right, and for that alone (*οὐτως*).

So take my advice and follow me to that bourn, where c. 83
when you have attained it, you will be happy in life and after death, as our argument promises, and let any one look down upon you as a fool and insult you if he pleases—aye, by heaven, and cheerfully submit to endure from him even that blow of infamy: for it will do you no harm if you be really an honest and true man, practising virtue. And hereafter when we have so practised it together, then and not till then will we set about politics, if it seem right to do so, or consult then about any other plans we think proper, better prepared for deliberation than we are now. For it is a shame for men in the condition in which we now manifestly are to assume airs of consequence, though we are never of the same mind for two moments together upon the same subjects, and those of the deepest moment; such is the undisciplined state of our minds. Let us then take as a guide the views that have even now declared themselves to us, which point out that this course of life is best, in the practice of justice and of every other virtue to live and to die. These then let us follow and invite all others thereto; not those you put faith in and invite me to: for they are nothing worth, Callicles.

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LUCRETIUS ON THE
NATURE OF THINGS

TRANSLATED BY

CYRIL BAILEY

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SHORT ANALYSIS OF THE POEM

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D. *The infinite worlds and their formation and destruction* ;
1023-1174.

Book III deals with the soul, its nature, and its fate.

Introduction : Praise of Epicurus and effect of the fear of
punishment after death ; 1-93.

✓ A. *Nature and formation of the Soul* ; 94-416.

(a) Distinction between mind and soul, or vital
principle ; 94-160.

(b) Their corporeal nature and composition ; 161-257.

(c) Their relation to one another and to the body ;
258-416.

B. *Proofs of the Mortality of the Soul* ; 417-829.

(This section cannot be satisfactorily subdivided, but
may roughly be classified as follows :)

(a) Proofs from the structure of the soul ; 425-58.

(b) Proofs from disease and its cure ; 459-547.

(c) Proofs from connexion of soul and body ; 548-623.

(d) Proofs from absurdity of separate existence of
soul ; 624-829.

✓ C. *The folly of the fear of death* ; 830-1094.

Book IV deals mainly with the psychology of sensation and
thought, and also with certain biological functions.

Introduction : Lucretius's Mission ; 1-25.

✓ A. *Existence and nature of the 'idols'* ; 26-216.

(a) Their existence ; 26-109.

(b) Their fineness of texture ; 110-42.

(c) Swiftmess of their formation ; 143-75.

(d) Rapidity of their motion ; 176-216.

B. *Sensation and Thought* ; 217-822.

(a) Sight and phenomena connected with it ; 217-378.

(b) False inferences of the mind and infallibility of
the senses ; 379-521

(c) Hearing ; 522-614.

(d) Taste ; 615-72.

(e) Smell ; 673-721.

✓ (f) Thought, i. e. mental images, both in sleep and
waking life ; 722-822.

C. *Some functions of the Body* ; 823-1057.

(a) Refutation of teleological view ; 823-57.

- (b) Food; 858-76.
- (c) Walking: the act of will; 877-906.
- (d) Sleep and dreams; 907-1036.
- (e) Love; 1037-57.

D. *Attack on the passion of Love*; 1058-1287.

Book V deals with our world and its formation, astronomy, the beginnings of life and civilization.

Introduction: Praise of Epicurus; 1-54.

Argument of the book; 55-109; attack on the theological and teleological view; 110-234.

A. *The world had a beginning and is mortal*; 235-415.

B. *Formation of the world*; 416-508, 534-64.

C. *Astronomy*; 509-33, 564-770.

(a) Motions of heavenly bodies; 509-33.

(b) Size of sun, moon and stars; 564-613.

(c) Cause of orbits of heavenly bodies; 614-49.

(d) Causes of night and day, and their variations; 650-704.

(e) Cause of the moon's light; 705-50.

(f) Cause of eclipses; 751-70.

D. *The youth of the world*; 772-1010.

(a) Origin of vegetable and animal life; 772-924.

(b) Origin of human life and primitive man; 925-1010.

E. *The beginnings of civilization*; 1011-1457.

Book VI explains from the atomic point of view a variety of occurrences, partly meteorological phenomena, partly terrestrial curiosities.

Introduction: Praise of Epicurus: the gods; 1-95.

A. *Celestial phenomena*; 96-534.

(a) Thunder, lightning and thunderbolts; 96-422.

(b) Waterspouts; 423-50.

(c) Clouds and Rain; 451-534.

B. *Terrestrial phenomena*; 535-1137.

(a) Earthquakes; 535-607.

(b) Constant size of the sea; 608-38.

(c) Volcanoes; 639-711.

(d) The Nile; 712-37.

(e) Pestilential lakes, &c.; 738-847.

(f) Curious fountains; 848-905.

(g) The Magnet; 906-1089.

(h) Pestilences; 1090-1137.

C. *The Plague at Athens*; 1138-1286.

LUCRETIUS
ON THE NATURE OF THINGS
BOOK I

MOTHERⁿ of Aeneas's sons, joy of men and gods, Venus the life-giver, who beneath the gliding stars of heaven fillest with life the sea that carries the ships and the land that bears the crops ; for thanks to thee every tribe of living things is conceived, and comes forth to look upon the light of the sun. Thou, goddess, thou dost turn to flight the winds and the clouds of heaven, thou at thy coming ; for thee earth, the quaint artificer, puts forth her sweet-scented flowers ; for thee the levels of ocean smile, and the sky, its anger past, gleams with spreading light. For when once the face of the spring day is revealed and the teeming breeze of the west wind is loosed from prison and blows strong, first the birds in high heaven herald thee, goddess, and thine approach, their hearts thrilled with thy might. Then the tame beasts grow wild and bound over the fat pastures, and swim the racing rivers ; so surely enchained by thy charm each follows thee in hot desire whither thou goest before to lead him on. Yea, through seas and mountains and tearing rivers and the leafy haunts of birds and verdant plains thou dost strike fond love into the hearts of all, and makest them in hot desire to renew the stock of their races, each after his own kind. ~ And since thou alone art pilot to the nature of things, and nothing without thine aid comes forth into the bright coasts of light, nor waxes glad nor lovely. I long that thou shouldst be my

Introduc-
tion :
Invocation
to Venus,
the
creative
power of
Nature.

helper in writing these verses, which I essay to trace on the nature of things for the son of the Memmii, my friend, whom thou, goddess, through all his life hast willed to be bright with every grace beyond his fellows. Therefore the more, goddess, grant a lasting loveliness to my words. Bring it to pass that meantime the wild works of warfare may be lulled to sleep over all seas and lands. For thou only canst bless mortal men with quiet peace, since 'tis Mavors, the lord of hosts, who guides the wild works of war, and he upon thy lap oft flings himself back, conquered by the eternal wound of love; and then pillow-ing his shapely neck upon thee and looking up he feeds with love his greedy eyes, gazing wistfully towards thee, while, as he lies back, his breath hangs upon thy lips. Do thou, goddess, as he leans resting on thy sacred limbs, bend to embrace him and pour forth sweet petition from thy lips, seeking, great lady, gentle peace for the Romans. For neither can we in our country's time of troubleⁿ set to our task with mind undistressed, nor amid such doings can Memmius's noble sonⁿ fail the fortunes of the state.

1

Appeal to
Memmius.

for the rest, do thou (Memmius), lend empty ears and a keen mind, severed from cares, to true philosophy, lest, before they are understood, you should leave aside in disdain my gifts set forth for you with unflagging zeal. For of the most high law of the heaven and the gods I will set out to tell you, and I will reveal the first-beginnings of things, from which nature creates all things, and increases and fosters them, and into which nature too dissolves them again at their perishing: these in rendering

¹ Some lines are lost here, in which he passed from addressing Venus to Memmius.

our account it is our wont to call matter or the creative bodies of things, and to name them the seeds of things, and again to term them the first-bodies, since from them first all things have their being.

When the life of man lay foul to see and grovelling upon the earth, crushed by the weight of religion, which showed her face from the realms of heaven, lowering upon mortals with dreadful mien, 'twas a man of Greeceⁿ who dared first to raise his mortal eyes to meet her, and first to stand forth to meet her: him neither the stories of the gods nor thunderbolts checked, nor the sky with its revengeful roar, but all the more spurred the eager daring of his mind to yearn to be the first to burst through the close-set bolts upon the doors of nature. And so it was that the lively force of his mind won its way, and he passed on far beyond the fiery walls of the world,ⁿ and in mind and spirit traversed the boundless whole; whence in victory he brings us tidings what can come to be and what cannot, yea and in what way each thing has its power limited, and its deepset boundary-stone. And so religion in revenge is cast beneath men's feet and trampled, and victory raises us to heaven.

Epicurus
and
Religion.

Herein I have one fear, lest perchance you think that you are starting on the principles of some unholy reasoning, and setting foot upon the path of sin. Nay, but on the other hand, again and again our foe, religion, has given birth to deeds sinful and unholy. Even as at Aulisⁿ the chosen chieftains of the Danai, the first of all the host, foully stained with the blood of Iphianassa the altar of the Virgin of the Cross-Roads.ⁿ For as soon as the band braided about her virgin locks streamed from her either cheek in equal lengths, as soon as she

The
impiety of
Religion.

Sacrifice of
Iphigenia.

saw her sorrowing sire stand at the altar's side, and near him the attendants hiding their knives, and her countrymen shedding tears at the sight of her, tongue-tied with terror, sinking on her knees she fell to earth. Nor could it avail the luckless maid at such a time that she first had given the name of father to the king. For seized by men's hands,¹¹ all trembling was she led to the altars, not that, when the ancient rite of sacrifice was fulfilled, she might be escorted by the clear cry of 'Hymen', but in the very moment of marriage, a pure victim she might foully fall, sorrowing beneath a father's slaughtering stroke, that a happy and hallowed starting might be granted to the fleet. Such evil deeds could religion prompt.

The fear of death and its cure.

You yourself sometime vanquished by the fearsome threats of the seer's sayings, will seek to desert from us. Nay indeed, how many a dream may they even now conjure up before you, which might avail to overthrow your schemes of life, and confound in fear all your fortunes. And justly so: for if men could see that there is a fixed limit to their sorrows, then with some reason they might have the strength to stand against the scruples of religion, and the threats of seers. As it is there is no means, no power to withstand, since everlasting is the punishment they must fear in death. For they know not

The nature of the soul.

what is the nature of the soul, whether it is born or else finds its way into them at their birth, and again whether it is torn apart by death and perishes with us, or goes to see the shades of Orcus and his waste pools, or by the gods' will implants itself in other breasts, as our own Ennius¹² sang, who first bore down from pleasant Helicon the wreath of deathless leaves, to win bright fame among

the tribes of Italian peoples. And yet despite this, Ennius sets forth in the discourse of his immortal verse that there is besides a realm of Acheron, where neither our souls nor bodies endure, but as it were images pale in wondrous wise; and thence he tells that the form of Homer, ever green and fresh, rose to him, and began to shed salt tears, and in converse to reveal the nature of things. Therefore we must both give good account of the things on high, in what way the courses of sun and moon come to be, and by what force all things are governed on earth, and also before all else we must see by keen reasoning, whence comes the soul and the nature of the mind, and what thing it is that meets us and affrights our minds in waking life, when we are touched with disease, or again when buried in sleep, so that we seem to see and hear hard by us those who have met death, and whose bones are held in the embrace of earth.

Problems
to be dealt
with.

Nor does it pass unnoticed of my mind that it is a hard task in Latin verses to set clearly in the light the dark discoveries of the Greeks, above all when many things must be treated in new words, because of the poverty of our tongue and the newness of the themes; yet your merit and the pleasure of your sweet friendship, for which I hope, urge me to bear the burden of any toil, and lead me on to watch through the calm nights, searching by what words, yea and in what measures, I may avail to spread before your mind a bright light, whereby you may see to the heart of hidden things.

Lucretius'
difficulty.

This terror then, this darkness of the mind, must needs be scattered not by the rays of the sun and the gleaming shafts of day, but by the outer view and the inner law of nature; whose first rule shall take its start for us from

A. General
principles.
The first
law:
nothing is

made of
nothing.

this, that nothing is ever begotten of nothing^u by divine will. Fear forsooth so constrains all mortal men, because they behold many things come to pass on earth and in the sky, the cause of whose working they can by no means see, and think that a divine power brings them about. Therefore, when we have seen that nothing can be created out of nothing, then more rightly after that shall we discern that for which we search, both whence each thing can be created, and in what way all things come to be without the aid of gods.

Proof:
all things
require
fixed seeds.

For if things came to being from nothing, every kind might be born from all things, nought would need a seed. First men might arise from the sea, and from the land the race of scaly creatures, and birds burst forth from the sky; cattle and other herds, and all the tribe of wild beasts, with no fixed law of birth, would haunt tilth and desert. Nor would the same fruits stay constant to the trees, but all would change: all trees might avail to bear all fruits. Why, were there not bodies to bring each thing to birth, how could things have a fixed unchanging mother? But as it is, since all things are produced from fixed seeds, each thing is born and comes forth into the coasts of light, out of that which has in it the substance and first-bodies of each; and 'tis for this cause that all things cannot be begotten of all, because in fixed things there dwells a power set apart. Or again, why do we see the roses in spring, and the corn in summer's heat, and the vines bursting out when autumn summons them, if it be not that when, in their own time, the fixed seeds of things have flowed together, then is disclosed each thing that comes to birth, while the season is at hand, and the lively earth in safety brings forth the fragile

For 1. they
have fixed
substance,

2. and
fixed
seasons of
birth.

things into the coasts of light? But if they sprang from nothing, suddenly would they arise at uncertain intervals and in hostile times of year, since indeed there would be no first-beginnings which might be kept apart from creative union at an ill-starred season. Nay more, there would be no need for lapse of time for the increase of things upon the meeting of the seed, if they could grow from nothing. For little children would grow suddenly to youths, and at once trees would come forth, leaping from the earth. But of this it is well seen that nothing comes to pass, since all things grow slowly, as is natural, from a fixed seed, and as they grow preserve their kind: so that you can know that each thing grows great, and is fostered out of its own substance. There is this too, that without fixed rain-showers in the year the earth could not put forth its gladdening produce, nor again held apart from food could the nature of living things renew its kind or preserve its life; so that rather you may think that many bodies are common to many things, as we see letters are to words, than that without first-beginnings anything can come to being. Once more, why could not nature produce men so large that on their feet they might wade through the waters of ocean or rend asunder mighty mountains with their hands, or live to overpass many generations of living men, if it be not because fixed substance has been appointed for the begetting of things, from which it is ordained what can arise? Therefore, we must confess that nothing can be brought to being out of nothing, inasmuch as it needs a seed for things, from which each may be produced and brought forth into the gentle breezes of the air. Lastly, inasmuch as we see

3. and
require
fixed
periods for
increase,

4. and
fixed
nourish-
ment;

5. they
have too a
fixed limit
of growth;

6. and culture makes the soil more fertile.

that tilled grounds are better than the untilled, and when worked by hands yield better produce, we must know that there are in the earth first-beginnings of things, which we call forth to birth by turning the teeming sods with the ploughshare and drilling the soil of the earth. But if there were none such, you would see all things without toil of ours of their own will come to be far better.

The second law : nothing is resolved into nothing. Otherwise 1. all things would be destroyed at once ;

2. nor could the world be replenished ;

Then follows this, that nature breaks up each thing again into its own first-bodies, nor does she destroy ought into nothing.ⁿ For if anything were mortal in all its parts, each thing would on a sudden be snatched from our eyes, and pass away. For there would be no need of any force, such as might cause disunion in its parts and unloose its fastenings. But as it is, because all things are put together of everlasting seeds, until some force has met them to batter things asunder with its blow, or to make its way inward through the empty voids and break things up, nature suffers not the destruction of anything to be seen. Moreover, if time utterly destroys whatsoever through age it takes from sight, and devours all its substance, how is it that Venus brings back the race of living things after their kind into the light of life, or when she has, how does earth, the quaint artificer, nurse and increase them, furnishing food for them after their kind? how is it that its native springs and the rivers from without, coming from afar, keep the sea full? how is it that the sky feeds the stars? For infinite time and the days that are gone by must needs have devoured all things that are of mortal body. But if in all that while, in the ages that are gone by, those things have existed, of which this sum of things consists and is replenished, assuredly they are blessed with an immortal nature ; all things

cannot then be turned to nought. And again, the same force and cause would destroy all things alike, unless an eternal substance held them together, part with part interwoven closely or loosely by its fastenings. For in truth a touch would be cause enough of death, seeing that none of these things would be of everlasting body, whose texture any kind of force would be bound to break asunder. But as it is, because the fastenings of the first-elements are variously put together, and their substance is everlasting, things endure with body unharmed, until there meets them a force proved strong enough to overcome the texture of each. No single thing then passes back to nothing, but all by dissolution pass back into the first-bodies of matter. Lastly, the rains pass away, when the sky, our father, has cast them headlong into the lap of earth, our mother; but the bright crops spring up, and the branches grow green upon the trees, the trees too grow and are laden with fruit; by them next our race and the race of beasts is nourished, through them we see glad towns alive with children, and leafy woods on every side ring with the young birds' cry; through them the cattle wearied with fatness lay their limbs to rest over the glad pastures, and the white milky stream trickles from their swollen udders; through them a new brood with tottering legs sports wanton among the soft grass, their baby hearts thrilling with the pure milk. Not utterly then perish all things that are seen, since nature renews one thing from out another, nor suffers anything to be begotten, unless she be requited by another's death.

3. the same force could destroy all things alike;

4. as it is, the loss of one thing means the increase of another.

Come now, since I have taught you that things cannot be created of nought nor likewise when begotten be called

The existence of

invisible
particles is
supported
by other
invisible
bodies.

1. Wind.

back to nothing, lest by any chance you should begin nevertheless to distrust my words, because the first-beginnings of things cannot be descried with the eyes, let me tell you besides of other bodies, which you must needs confess yourself are among things and yet cannot be seen. First of all the might of the awakened wind lashes the ocean and o'erwhelms vast ships and scatters the clouds, and anon scouring the plains with tearing hurricane it strews them with great trees, and harries the mountain-tops with blasts that rend the woods: with such fierce whistling the wind rages and raves with angry roar. There are therefore, we may be sure, unseen bodies of wind, which sweep sea and land, yea, and the clouds of heaven, and tear and harry them with sudden hurricane; they stream on and spread havoc in no other way than when the soft nature of water is borne on in a flood o'erflowing in a moment, swollen by a great rush of water dashing down from the high mountains after bounteous rains and hurling together broken branches from the woods, and whole trees too; nor can the strong bridges bear up against the sudden force of the advancing flood. In such wise, turbid with much rain, the river rushes with might and main against the piles: roaring aloud it spreads ruin, and rolls¹ and dashes beneath its waves huge rocks and all that bars its flood. Thus then the blasts of wind too must needs be borne on; and when like some strong stream they have swooped towards any side, they push things and dash them on with constant assault; sometimes in eddying whirl they seize them up and bear them away in swiftly swirling hurricane. Wherefore again and again there are unseen bodies of wind,

¹ Read *ruitque et quidquid*.

inasmuch as in their deeds and ways they are found to rival mighty streams, whose body all may see. Then again we smell the manifold scents of things, and yet we do not ever descry them coming to the nostrils, nor do we behold warm heat, nor can we grasp cold with the eyes, nor is it ours to descry voices; yet all these things must needs consist of bodily nature, inasmuch as they can make impact on our senses. For, if it be not body, nothing can touch and be touched. Once more, garments hung up upon the shore, where the waves break, grow damp, and again spread in the sun they dry. Yet never has it been seen in what way the moisture of the water has sunk into them, nor again in what way it has fled before the heat. Therefore the moisture is dispersed into tiny particles, which the eyes can in no way see. Nay more, as the sun's year rolls round again and again, the ring on the finger becomes thin beneath by wearing, the fall of dripping water hollows the stone, the bent iron ploughshare secretly grows smaller in the fields, and we see the paved stone streets worn away by the feet of the multitude; again, by the city-gates the brazen statues reveal that their right hands are wearing thin through the touch of those who greet them ever and again as they pass upon their way. All these things then we see grow less, as they are rubbed away: yet what particles leave them at each moment, the envious nature of our sight has shut us out from seeing. Lastly, whatever time and nature adds little by little to things, impelling them to grow in due proportion, the straining sight of the eye can never behold, nor again wherever things grow old through time and decay. Nor where rocks overhang the sea, devoured by the thin salt spray,

2. Scent.

3. Heat.

4. Cold.

5. Sound.

6. Moisture.

7. The evidence of Decay.

8. and Growth.

could you see what they lose at each moment. 'Tis then by bodies unseen that nature works her will.

The Void. And yet all things are not held close pressed on every side by the nature of body; for there is void in things.¹ To have learnt this will be of profit to you in dealing with many things; it will save you from wandering in doubt and always questioning about the sum of things, and distrusting my words. There is then a void, mere space untouchable and empty. For if there were not, by no means could things move; for that which is the office of body, to offend and hinder, would at every moment be present to all things; nothing, therefore, could advance, since nothing could give the example of yielding place. But as it is, through seas and lands and the high tracts of heaven, we descry many things by many means moving in diverse ways before our eyes, which, if there were not void, would not so much be robbed and balked of restless motion, but rather could in no way have been born at all, since matter would on every side be in close-packed stillness. Again, however solid things may be thought to be, yet from this you can discern that they are of rare body. In rocky caverns the liquid moisture of water trickles through, and all weeps with copious dripping: food spreads itself this way and that into the body of every living thing: trees grow and thrust forth their fruit in due season, because the food is dispersed into every part of them from the lowest roots through the stems and all the branches. Noises creep through walls and fly through the shut places in the house, stiffening cold works its way to the bones: but were there no empty spaces, along which each of these bodies might pass, you would not see this come to pass by any means. Again, why do we see one thing surpass another in weight, when

1. Without void motion is impossible.

2. Void accounts for the perviousness of seeming solids,

3. and differences

its size is no whit bigger? For if there is as much body in a bale of wool as in lead, it is natural it should weigh as much, since 'tis the office of body to press all things downwards, but on the other hand the nature of void remains without weight. So because it is just as big, yet seems lighter, it tells us, we may be sure, that it has more void; but on the other hand the heavier thing avows that there is more body in it and that it contains far less empty space within. Therefore, we may be sure, that which we are seeking with keen reasoning, does exist mingled in things—that which we call void.

in weight in
bodies of
equal size.

Herein lest that which some vainly imagineⁿ should avail to lead you astray from the truth, I am constrained to forestall it. They say that the waters give place to the scaly creatures as they press forward and open up a liquid path, because the fishes leave places behind, to which the waters may flow together as they yield: and that even so other things too can move among themselves and change place, albeit the whole is solid. In very truth this is all believed on false reasoning. For whither, I ask, will the scaly creatures be able to move forward, unless the waters have left an empty space? again, whither will the waters be able to give place, when the fishes cannot go forward? either then we must deny motion to every body, or we must say that void is mixed with things, from which each thing can receive the first start of movement. Lastly, if two broad bodies leap asunder quickly from a meeting, surely it must needs be that air seizes upon all the void, which comes to be between the bodies. Still, however rapid the rush with which it streams together as its currents hasten round, yet in one instant the whole empty space cannot be filled: for it must needs be that

The false
theory of
motion
without
void.

1. How can
things move
without
room to go
to?

2. There is
a momen-
tary void
between
two re-
bounding
bodies.

Falseidea of the con- densation of air :
 which is impossible without void.

it fills each place as it comes, and then at last all the room is taken up. But if by chance any one thinksⁿ that when bodies have leapt apart, then this comes to be because the air condenses, he goes astray ; for in that case that becomes empty which was not so before, and again that is filled which was empty before, nor can air condense in such a way, nor, if indeed it could, could it, I trow, without void draw into itself and gather into one all its parts.

The growth of knowledge.

Wherefore, however long you hang back with much objection, you must needs confess at last that there is void in things. And besides by telling you many an instance, I can heap up proof for my words. But these light footprints are enough for a keen mind : by them you may detect the rest for yourself. For as dogs ranging over mountains often find by scent the lairs of wild beasts shrouded under leafage, when once they are set on sure traces of their track, so for yourself you will be able in such themes as this to see one thing after another, to win your way to all the secret places and draw out the truth thence. But if you are slack or shrink a little from my theme, this I can promise you, Memmius, on my own word : so surely will my sweet tongue pour forth to you bounteous draughts from the deep well-springs out of the treasures of my heart, that I fear lest sluggish age creep over our limbs and loosen within us the fastenings of life, before that the whole store of proofs on one single theme be launched in my verses into your ears.

The two natures, matter and void.

But now, to weave again at the web, which is the task of my discourse, all nature then, as it is of itself, is built of these two things : for there are bodies and the

void, in which they are placed and where they move hither and thither. For that body exists is declared by the feeling which all share alike ; and unless faith in this feeling be firmly grounded at once and prevail, there will be naught to which we can make appeal about things hidden, so as to prove aught by the reasoning of the mind. And next, were there not room and empty space, which we call void, nowhere could bodies be placed, nor could they wander at all hither and thither in any direction ; and this I have above shown to you but a little while before. Besides these there is nothing which you could say is parted from all body and sundered from void, which could be discovered, as it were a third nature in the list. For whatever shall exist, must needs be something in itself ; and if it suffer touch, however small and light, it will increase the count of body by a bulk great or maybe small, if it exists at all, and be added to its sum. But if it is not to be touched, inasmuch as it cannot on any side check anything from wandering through it and passing on its way, in truth it will be that which we call empty void. Or again, whatsoever exists by itself, will either do something or suffer itself while other things act upon it, or it will be such that things may exist and go on in it. But nothing can do or suffer without body, nor afford room again, unless it be void and empty space. And so besides void and bodies no third nature by itself can be left in the list of things, which might either at any time fall within the purview of our senses, or be grasped by any one through reasoning of the mind.

There is no third nature.

1. Touch shows matter, intangibility void.

2. Body acts or suffers : void is the field of action.

For all things that have a name, you will find either properties linked to these two things or you will see them to be their accidents. That is a property which in no

Properties and Accidents.

case can be sundered or separated without the fatal disunion of the thing, as is weight to rocks, heat to fire, moisture to water, touch to all bodies, intangibility to the void. On the other hand, slavery, poverty, riches, liberty, war, concord, and other things by whose coming and going the nature of things abides untouched, these

Time is not a separate existence, but an accident of things.

False argument from past events, because the persons, whose accidents they were, are no more.

But
1. they may be called accidents of places;
2. without matter and space, they could not have occurred;

we are used, as is natural, to call accidents. Even so time exists not by itself,ⁿ but from actual things comes a feeling, what was brought to a close in time past, then what is present now, and further what is going to be hereafter. And it must be avowed that no man feels time by itself apart from the motion or quiet rest of things. Then again, when men sayⁿ that 'the rape of Tyndarus's daughter', or 'the vanquishing of the Trojan tribes in war' are things, beware that they do not perchance constrain us to avow that these things exist in themselves, just because the past ages have carried off beyond recall those races of men, of whom, in truth, these were the accidents. For firstly, we might well say that whatsoever has happened is an accident in one case of the countries, in another even of the regions of space. Or again, if there had been no substance of things nor place and space, in which all things are carried on, never would the flame of love have been fired by the beauty of Tyndaris, nor swelling deep in the Phrygian heart of Alexander have kindled the burning battles of savage war, nor unknown of the Trojans would the timber horse have set Pergama aflame at dead of night, when the sons of the Greeks issued from its womb. So that you may see clearly that all events from first to last do not exist, and are not by themselves like body, nor can they be spoken of in the same way as the being

of the void, but rather so that you might justly call them the accidents of body and place, in which they are carried on, one and all.

Bodies, moreover, are in part the first-beginnings of things, in part those which are created by the union of first-beginnings. Now the true first-beginnings of things, no force can quench; for they by their solid body prevail in the end. Albeit it seems hard to believe that there can be found among things anything of solid body. For the thunderbolt of heaven passes through walled houses, as do shouts and cries; iron grows white hot in the flame, and stones seethe in fierce fire and leap asunder; then too the hardness of gold is relaxed and softened by heat, and the ice of brass yields beneath the flame and melts; warmth and piercing cold ooze through silver, since when we have held cups duly in our hands we have felt both alike, when the dewy moisture of water was poured in from above. So true is it that in things there is seen to be nothing solid. But yet because true reasoning and the nature of things constrains us, give heed, until in a few verses we set forth that there are things which exist with solid and everlasting body, which we show to be the seeds of things and their first-beginnings, out of which the whole sum of things now stands created.

First, since we have found existing a twofold nature of things far differing, the nature of body and of space, in which all things take place, it must needs be that each exists alone by itself and unmixed. For wherever space lies empty, which we call the void, body is not there; moreover, wherever body has its station, there is by no means empty void. Therefore the first bodies are solid and free from void. Moreover, since there is void in

B. The ultimate particles are solid and eternal atoms.

Proofs.

1. Void and body are mutually exclusive.

2. Body must be solid to enclose void.

3. Body is that which distinguishes the full from the void;

it cannot be broken and is therefore eternal.

4. Otherwise all things would ere now have perished.

things created, solid matter must needs stand all round, nor can anything by true reasoning be shown to hide void in its body and hold it within, except you grant that what keeps it in is solid. Now it can be nothing but a union of matter, which could keep in the void in things. Matter then, which exists with solid body, can be everlasting, when all else is dissolved. Next, if there were nothing which was empty and void, the whole would be solid; unless on the other hand there were bodies determined, to fill all the places that they held, the whole universe would be but empty void space. Body, then, we may be sure, is marked off from void turn and turn about, since there is neither a world utterly full nor yet quite empty. There are therefore bodies determined, such as can mark off void space from what is full. These cannot be broken up when hit by blows from without, nor again can they be pierced to the heart and undone, nor by any other way can they be assailed and made to totter; all of which I have above shown to you but a little while before. For it is clear that nothing could be crushed in without void, or broken or cleft in twain by cutting, nor admit moisture nor likewise spreading cold or piercing flame, whereby all things are brought to their end. And the more each thing keeps void within it, the more is it assailed to the heart by these things and begins to totter. Therefore, if the first bodies are solid and free from void, as I have shown, they must be everlasting. Moreover, if matter had not been everlasting, ere this all things had wholly passed away to nothing, and all that we see had been born again from nothing. But since I have shown above that nothing can be created from nothing, nor can what has been begotten be summoned

back to nothing, the first-beginnings must needs be of immortal body, into which at their last day all things can be dissolved, that there may be matter enough for renewing things. Therefore the first-beginnings are of solid singleness, nor in any other way can they be preserved through the ages from infinite time now gone and renew things.

Again, if nature had ordainedⁿ no limit to the breaking of things, by now the bodies of matter would have been so far brought low by the breaking of ages past, that nothing could be conceived out of them within a fixed time, and pass on to the full measure of its life; for we see that anything you will is more easily broken up than put together again. Wherefore what the long limitless age of days, the age of all time that is gone by, had broken ere now, disordering and dissolving, could never be renewed in all time that remains. But as it is, a set limit to breaking has, we may be sure, been appointed, since we see each thing put together again, and at the same time fixed seasons ordained for all things after their kind, in the which they may be able to reach the flower of their life. There is this too that, though the first-bodies of matter are quite solid, yet we can give account of all the soft things that come to be, air, water, earth, fires, by what means they come to being, and by what force each goes on its way, when once void has been mingled in things. But on the other hand, if the first-beginnings of things were to be soft, it will not be possible to give account whence hard flints and iron can be created; for from the first all nature will lack a first-beginning of foundation. There are then bodies that prevail in their

5. If there were no limit to division, things could not reach maturity in due season, and destruction would now have gone past repair.

6. Solid bodies with void can make soft things: the reverse is impossible.

7. If there are not atoms, things themselves must be eternal, which is clearly untrue.

solid singleness, by whose more close-packed union all things can be riveted and reveal their stalwart strength. Moreover, if no limit has been appointed to the breaking of things, still it must needs be that all the bodies of things survive even now from time everlasting, such that they cannot yet have been assailed by any danger. But since they exist endowed with a frail nature, it is not in harmony with this that they have been able to abide for everlasting time harried through all the ages by countless blows.

8. Eternal atoms account for the persistence of species.

Once again, since there has been appointed for all things after their kind a limit of growing and of maintaining life, and inasmuch as it stands ordained what all things severally can do by the laws of nature, and what too they cannot, nor is anything so changed, but that all things stand so fast that the diverse birds all in their due order show that the marks of their kind are on their body, they must also, we may be sure, have a body of unchanging substance. For if the first-beginnings of things could be vanquished in any way and changed, then, too, would it be doubtful what might come to being, what might not, yea, in what way each thing has its power limited and its deepset boundary-stone, nor could the tribes each after their kind so often recall the nature, habits, manner of life and movements of the parents.

9. The analogy of perceptible extremities

Then, further, since there are extreme points ⁿ, one after another (on bodies, which are the least things we can see, likewise, too, there must be a least point)¹ on

¹ Two lines are probably lost here, the sense of which has been admirably restored by Munro:

corporibus, quod iam nobis minimum esse videtur,
debet item ratione pari minimum esse cacumen

that body, which our senses can no longer descry; that point, we may be sure, exists without parts and is endowed with the least nature, nor was it ever sundered apart by itself nor can it so be hereafter, since it is itself but a part of another and that the first single part: then other like parts and again others in order in close array make up the nature of the first body, and since they cannot exist by themselves, it must needs be that they stay fast there whence they cannot by any means be torn away. The first-beginnings then are of solid singleness; for they are a close dense mass of least parts, never put together out of a union of those parts, but rather prevailing in everlasting singleness; from them nature, keeping safe the seeds of things, suffers not anything to be torn away, nor ever to be removed. Moreover, if there be not a least thing, all the tiniest bodies will be composed of infinite parts, since indeed the half of a half will always have a half, nor will anything set a limit. What difference then will there be between the sum of things and the least of things? There will be no difference; for however completely the whole sum be infinite, yet things that are tiniest will be composed of infinite parts just the same. And since true reasoning cries out against this, and denies that the mind can believe it, you must be vanquished and confess that there are those things which consist of no parts at all and are of the least nature. And since these exist, those first-beginnings too you must needs own are solid and everlasting. And again, if nature, the creatress, had been used to constrain all things to be dissolved into their least parts, then she could not again renew aught of them, for the reason that things which

proves the solid singleness of the atoms.

10. Unless there is a 'least part' the universe and the smallest thing are equal.

11. The least parts, if separated, could not produce things.

are not enlarged by any parts, have not those powers which must belong to creative matter, the diverse fastenings, weights, blows, meetings, movements, by which all things are carried on.

C. False theories. That one element is the primal substance. Heraclitus's doctrine of fire.

Wherefore those who have thought that fire is the substance of things, and that the whole sum is composed of fire alone, are seen to fall very far from true reasoning. Heraclitus^u is their leader who first enters the fray, of bright fame for his dark sayings, yet rather among the empty-headed than among the Greeks of weight, who seek after the truth. For fools laud and love all things more which they can descry hidden beneath twisted sayings, and they set up for true what can tickle the ear with a pretty sound and is tricked out with a smart ring.

1. It does not account for the variety of things.

For I am eager to know how things could be so diverse, if they are created of fire alone and unmixed. For it would be of no avail that hot fire should condense or grow rare, if the parts of fire had the same nature which the whole sum of fire has as well. For fiercer would be the flame, if the parts were drawn together, and weaker again, were they sundered and scattered. But further than this there is nothing which you can think might come to pass from such a cause, far less might the great diversity of things come from fires condensed and rare.

2. He denies the void and so vitiates his own theory.

This too there is : if they were to hold that void is mingled in things, the fires will be able to condense or be left rare. But because they see many things to thwart them, they hold their peace and shrink from allowing void unmixed among things ;¹ while they fear the heights, they lose the true track, nor again do they perceive that, if void be removed from things, all things must condense

¹ Read *mussant* and place semicolon after *purum*, l. 658.

and be made one body out of many, such as could not send out anything from it in hot haste ; even as fire that brings warmth casts abroad light and heat, so that you may see that it has not parts close-packed. But if perchance they believe that in some other way fires may be quenched in union and alter their substance, in very truth if they do not spare to do this at any point, then, we may be sure, all heat will perish utterly to nothing, and all things created will come to be out of nothing. For whenever a thing changes and passes out of its own limits, straightway this is the death of that which was before. Indeed something must needs be left untouched to those fires, lest you find all things returning utterly to nothing, and the store of things born again and growing strong out of nothing. As it is then, since there are certain bodies most determined which keep nature safe ever the same, through whose coming and going and shifting order things change their nature and bodies are altered, you can be sure that these first-bodies of things are not of fire. For it would be no matter that some should give place and pass away, and others be added, and some changed in order, if despite this all retained the nature of heat ; for whatever they might create would be in every way fire. But, I trow, the truth is this ; there are certain bodies, whose meetings, movements, order, position, and shapes make fires, and when their order changes, they change their nature, and they are not made like to fire nor to any other thing either, which is able to send off bodies to our senses and touch by collision our sense of touch.

Moreover, to say that fire is all things, and that there is no other real thing in the whole count of things, but

3. Fire ever changing to other things means ultimate destruction.

The true atomic view.

4. Heraclitus

impugns the senses. only fire, as this same Heraclitus does, seems to be raving frenzy. For on behalf of the senses he fights himself against the senses, and undermines those on which all that he believes must hang, whereby he himself has come to know that which he names fire. For he believes that the senses can know fire aright, but not all other things, which are no whit less bright to see. And this seems to me alike idle and frenzied. For to what shall we appeal? What can be surer for us than the senses themselves, whereby we may mark off things true and false? Besides, 5. Why choose fire? why should any one rather annul all things, and wish to leave only the nature of heat, than deny that fire exists, and grant in its stead that another nature exists? For it seems equal madness to say the one or the other.

That (a) other elements are the primal substance,

or (b) a combination of two, or (c) of four.

Empedocles.

Wherefore those who have thought that fire is the substance of things, and that the whole sum may be built of fire, and those who have set up air as the first-beginning for the begetting of things, or again all who have thought that moisture fashions things alone by itself, or that earth creates all and passes into all the natures of things, seem to have strayed very far away from the truth. Add to them too those who make the first-beginnings of things twofold, linking air to fire or earth to water, and those who think that all can grow up out of four things, fire, earth, wind, and rain. Of them in the forefront comes Empedocles^u of Acragas; him that islandⁿ bore within the three-cornered coasts of its lands, around which flows the Ionian ocean, with many a winding inlet, splashing salt foam from its green waves, while with narrow strait a tearing sea sunders with its waves the coasts of Italy's lands from the island-borders. Here is devastating Charybdis, and here the rumblings of Aetna threaten

to gather once more the flames of its wrath, that again in its might it may belch forth the fires bursting from its throat, and once more dash to the sky its flashing flames. And though this mighty country seems in many ways marvellous to the tribes of men, and is said to deserve seeing, rich in goodly things, and strengthened with a mighty wealth of men, yet it is seen to have held nothing in it more glorious than this man, nothing more holy, more marvellous and loved. Nay, the songs of his godlike heart lift up their voice and set forth his glorious discoveries, so that he seems scarce born of human stock.^a

Yet he and those whom I named before, weaker than he by exceeding many degrees, and far beneath him, though they discovered much in good, nay godlike fashion, and gave answers as from the shrine of their hearts in more holy wise and with reasoning far more sure than the Pythian priestess who speaks out from the tripod and laurel of Phoebus, yet in the first-beginnings of things they came to grief: great were they, and great and heavy their fall therein. First because they take away the void from things, but suppose movement, and leave things soft and rare, air, sunlight, fire, earth, beasts, and crops, and yet mingle no void in their body. Then because they hold that there is no limit at all to the cutting of bodies, that no halting-place is set to their breaking, nor again is there any least among things. And that when we see that there is that extreme point in each thing, which is seen to be the least to our senses, so that you can infer from this that the extreme point in things which you cannot see is the least in them. Then follows this

Errors of
Empedocles
and his
school:

1. they
deny the
void;

2. they set
no limit to
division;

3. their elements are soft

that, since they suppose the first-beginnings of things soft, things which we see come to birth and endowed throughout with a mortal body, the whole sum of things must then return to naught, and the store of things be born again, and grow strong out of nothing. And how far both this and that are from the truth, you will know by now. Then again, these things are in many ways hostile, nay poison, the one to the other; therefore either when they meet they will pass away, or they will so fly apart, as when a storm gathers we see the thunderbolts and rain and wind fly asunder.

4. and pernicious to one another.

5. Why not call things the primal substance of the elements?

Again, if from four things all are created and all again are dissolved into those things, how can they be called the first-beginnings of things any more than things the first-beginnings of them, with our thought reversed? For they are begotten turn by turn, and change their colour and all their nature one with the other from all time onward. But if perchance you think that the body of fire and the body of earth and the breezes of the air and the dewy moisture so unite, that in union no one of them changes its nature, you will see that nothing can be created out of them, no, not a living thing, nor one with lifeless body, like a tree. Indeed in the mingling of this diverse mass each thing will reveal its own nature, and air will be seen to be mixed together with earth, and heat to cleave to moisture. But first-beginnings ought in the begetting of things to bring to bear a secret and unseen nature, that nothing may stand out which might bar and thwart whatever is created from existing with its own true being.

6. or, if the elements do not change in compounds, what else could they create?

7. The flux of the

But indeed they trace it back to heaven and heaven's fires, and hold that fire first turns itself into the breezes

of the sky, that thence is begotten rain, and of rain is created earth, and then all things pass back again from earth, first moisture, next air, then heat, and that these things never cease their mutual changes, in their path from heaven to earth, from earth to the stars of the firmament. But the first-beginnings ought in no wise to do this. For it must needs be that something abides unchangeable, that all things be not altogether brought to naught. For whenever a thing changes and passes out of its own limits, straightway this is the death of that which was before. Wherefore since the things we have named a little before pass into a state of interchange, they must needs be made of other things, which cannot in any case be altered, lest you find all things returning altogether to naught. Why not rather suppose that there are certain bodies endowed with such a nature, and that, if by chance they have created fire, they can too, when a few are removed and a few added, and their order and movement is changed, make the breezes of the sky, and that thus all things are changed one into another?

‘But,’ you say, ‘the facts show clearly that all things are nourished and grow from the earth up into the breezes of the sky; and unless the season at a propitious time fosters them with rain, so that the trees rock beneath the outpouring of the storm-clouds, and the sun for its part cherishes them, and bestows its heat on them, crops, trees, living creatures, none could grow.’ Yes, in very truth, unless we too were nurtured by dry food and soft moisture, we should lose our flesh, and all the life too would be loosened from all our sinews and bones. For beyond all doubt we are nurtured and nourished upon things determined, and other things again, each in their turn,

elements
destroys
perma-
nence;

8. the
argument
from the
presence of
the four
elements in
growth;

its true
atomic ex-
planation.

on things determined. Yea, we may be sure, it is because many first-beginnings common in many ways to many things are mingled among things, that so diverse things are nourished on diverse food. And often it is of great matter with what others those first-beginnings are bound up, and in what position, and what movements they mutually give and receive; for the same build up sky, sea, earth, rivers, sun, the same too crops, trees, living creatures, but only when mingled with different things and moving in different ways. Indeed scattered abroad in my verses you see many letters common to many words, and yet you must needs grant that verses and words are unlike both in sense and in the ring of their sound. So great is the power of letters by a mere change of order. But the first-beginnings of things can bring more means to bear, by which all diverse things may be created.

The
homoeo-
meria of
Anaxa-
goras :

Now let us also search into the homoeomeria of Anaxagoras,ⁿ as the Greeks term it, though the poverty of our country's speech does not suffer us to name it in our own tongue; nevertheless the thing itself it is easy to set forth in words. First—what he calls the homoeomeria of things—you must know that he thinks that bones are made of very small and tiny bones, and flesh of small and tiny pieces of flesh, and blood is created of many drops of blood coming together in union, and that gold again can be built up of grains of gold, and the earth grow together out of little earths, that fire is made of fires, and water of water-drops, and all the rest he pictures and

r. he denies
the void ;

imagines in the same way. And yet he does not allow that there is void in things on any side, nor that there is a limit to the cutting up of bodies. Therefore in this

point and that he seems to me to go astray just as they did, of whom I told above. Add too to this that he pictures his first-beginnings too weak: if indeed those are first-beginnings, which exist endowed with a nature like things themselves, which suffer none the less, and pass away, nor does anything rein them back from their destruction. For which of them all will hold out beneath strong pressure, so as to escape death in the very jaws of destruction? fire or moisture or breeze? which of these? blood or bones? Not one, I trow, when everything alike will be altogether as mortal as the things we see clearly before our eyes vanquished by some violence and passing away. But that things cannot fall away into nothing, nor again grow from nothing, I call to witness what I have before now proved. Moreover, since 'tis food that increases and nourishes the body, you may know that our veins and blood and bones (and sinews are created of parts alien in kind);¹ or if they say that all foods are of mingled substance, and have in them little bodies of sinews, and bones and indeed veins and portions of gore, then it will be that all food, both dry, yes and liquid too, must be thought to consist of things alien in kind, of bones and sinews and matter and blood mingled together. Moreover, if all bodies that grow from out the earth are in the earth, the earth must be composed of things alien in kind, which rise up out of the earth. Shift this to another field, you may use the same words again. If in logs flame lurks hidden, and smoke and ash, it must needs be that the logs are composed of things alien in kind. Moreover, all the bodies which the earth nourishes, it

2. he sets
no limit to
division;
3. his first
particles are
soft;

4. he does
not account
for change.

¹ Lambinus supplied the sense of a missing verse:
et nervos alienigenis ex partibus esse.

increases (from things alien in kind, which rise up out of the earth. So too the bodies which logs emit, are nourished)¹ upon things alien in kind, which rise up out of the logs.

Anaxagoras's evasion: 'all things are in all things';

then they ought to appear.

Herein there is left a slight chance of hiding from justice, which Anaxagoras grasps for himself, to hold that all things are mingled, though in hiding, in all things, but that that one thing comes out clear, whereof there are most parts mingled in, stationed more ready to view and in the forefront. But this is very far banished from true reasoning. For it were right then that corn also, when crushed by the threatening strength of rock, should often give out some sign of blood, or one of those things which are nourished in our body, and that when we rub it with stone on stone, gore should ooze forth. In the same way it were fitting that blades of grass too and pools of water should often give out sweet drops with a savour like the richness of the milk of fleecy beasts, and that often when sods of earth are crumbled, kinds of grasses and corn and leaves should be seen, hiding in tiny form, scattered about among the earth, lastly that ash and smoke should be seen in logs, when they were broken off, and tiny flames in hiding. But since facts clearly show that none of these things comes to pass, you may be sure that things are not so mingled in other things, but that seeds common to many things lie mingled and hidden in things in many ways.

The argument from forest conflagrations.

'But often on mighty mountains it comes to pass,' you say, 'that the neighbouring tops of tall trees rub

¹ Two lines seem to be lost here, of which Munro has supplied the sense:

*ex alienigenis, quae terris exoriuntur.
sic iudem quae ligna emittunt corpora, aluntur*

together, when the strong south winds constrain them to it, until at last a flowery flame gathers, and they blaze with fire.' And yet you must know that fire is not implanted in their wood, but there are many seeds of heat, which when they have flowed together through the rubbing, create fires in the forests. But if the flame had been hidden away ready-made in the forests, the fires could not have been concealed for any time, they would consume the forests one and all, and burn the trees to ashes. Do you not then see now, what I said but a little while ago, that it is of very great matter often with what others those same first-beginnings are bound up, and in what position, and what movements they mutually give and receive, and that the same a little changed with one another can create beams or flames? Even as the words themselves have their letters but little changed, when with sound distinct we signify beams or flames. Once again, if you think that all that you can descry in things clear to be seen cannot come to being, but that you must suppose first-bodies of matter endowed with a nature like the whole, by this reasoning you see the first-beginnings of things pass away. Nay, it will come to be that they will be shaken with quivering mirth and laugh aloud, and wet face and cheeks with salt tears.

The true atomic explanation.

Reductio ad absurdum.

Come now, learn what remains, and listen to clearer words. Nor do I fail to see in mind how dark are the ways; but a great hope has smitten my heart with the sharp spur of fame, and at once has struck into my breast the sweet love of the muses, whereby now inspired with strong mind I traverse the distant haunts of the Pierides, never trodden before by the foot of man. 'Tis my joy to approach those untasted springs and drink my fill, 'tis

D. Lucretius's mission.

my joy to pluck new flowers and gather a glorious coronal for my head from spots whence before the muses have never wreathed the forehead of any man. First because I teach about great things, and hasten to free the mind from the close bondage of religion, then because on a dark theme I trace verses so full of light, touching all with the muses' charm. For that too is seen to be not without good reason; but even as healers, when they essay to give loathsome wormwood to children, first touch the rim all round the cup with the sweet golden moisture of honey, so that the unwitting age of children may be beguiled as far as the lips, and meanwhile may drink the bitter draught of wormwood, and though charmed may not be harmed, but rather by such means may be restored and come to health; so now, since this philosophy full often seems too bitter to those who have not tasted it, and the multitude shrinks back away from it, I have desired to set forth to you my reasoning in the sweet-tongued song of the muses, and as though to touch it with the pleasant honey of poetry, if perchance I might avail by such means to keep your mind set upon my verses, while you come to see the whole nature of things, what is its shape and figure.

The
problem of
infinity.

There is
no limit to
the sum of
things.

a. The
universe is

But since I have taught that the most solid bodies of matter fly about for ever unvanquished through the ages, come now, let us unfold, whether there be a certain limit to their full sum or not; and likewise the void that we have discovered, or room or space, in which all things are carried on, let us see clearly whether it is all altogether bounded or spreads out limitless and immeasurably deep.

The whole universe then is bounded in no direction of its ways; for then it would be bound to have an extreme

point. Now it is seen that nothing can have an extreme point, unless there be something beyond to bound it, so that there is seen to be a spot further than which the nature of our sense cannot follow it. As it is, since we must admit that there is nothing outside the whole sum, it has not an extreme point, it lacks therefore bound and limit. Nor does it matter in which quarter of it you take your stand; so true is it that, whatever place every man takes up, he leaves the whole boundless just as much on every side. Moreover, suppose now^a that all space were created finite, if one were to run on to the end, to its furthest coasts, and throw a flying dart, would you have it that that dart, hurled with might and main, goes on whither it is sped and flies afar, or do you think that something can check and bar its way? For one or the other you must needs admit and choose. Yet both shut off your escape and constrain you to grant that the universe spreads out free from limit. For whether there is something to check it and bring it about that it arrives not whither it was sped, nor plants itself in the goal, or whether it fares forward, it set not forth from the end. In this way I will press on, and wherever you shall set the furthest coasts, I shall ask what then becomes of the dart. It will come to pass that nowhere can a bound be set and room for flight ever prolongs the chance of flight. Lastly, before our eyes one thing is seen to bound another; air is as a wall between the hills, and mountains between tracts of air, land bounds the sea, and again sea bounds all lands; yet the universe in truth there is nothing to limit outside.

infinite:
1. for it has
no bound-
ing point;

2. experi-
ment of the
hurled dart;

3. the
sensible
world bears
no analogy.

Moreover, if all the space in the whole universe were shut in on all sides, and were created with borders deter-

b. Space is
infinite:

otherwise
matter
would
collect at
the bottom.

mined, and had been bounded, then the store of matter would have flowed together with solid weight from all sides to the bottom, nor could anything be carried on beneath the canopy of the sky, nor would there be sky at all, nor the light of the sun, since in truth all matter would lie idle piled together by sinking down from limitless time. But as it is, no rest, we may be sure, has been granted to the bodies of the first-beginnings, because there is no bottom at all, whither they may, as it were, flow together, and make their resting-place. All things are for ever carried on in ceaseless movement from all sides, and bodies of matter are even stirred up and supplied from beneath out of limitless space. The nature of room then and the space of the deep is such that neither could the bright thunderbolts course through it in their career, gliding on through the everlasting tract of time, nor bring it about that there remain a whit less to traverse as they travel; so far on every side spreads out huge room for things, free from limit in all directions everywhere.

c. Matter
is infinite:

Nay more, nature ordains that the sum of things may not have power to set a limit to itself, since she constrains body to be bounded by void, and all that is void to be bounded by body, so that thus she makes the universe infinite by their interchange, or else at least one of the two, if the other of them bound it not, yet spreads out immeasurable with nature unmixed. (But space I have taught above spreads out without limit. If then the sum of matter were bounded,)¹ neither sea nor earth nor the gleaming quarters of heaven nor the race of mortal

otherwise
things
could not
last

¹ Munro again has well supplied the sense of two lost lines:

sed spatium supra docui sine fine patere.
si finita igitur summa esset materiai,

men, nor the hallowed bodies of the gods could exist for the short space of an hour. For driven apart from its unions the store of matter would be carried all dissolved through the great void, or rather in truth it could never have grown together and given birth to anything, since scattered abroad it could not have been brought to meet

For in very truth, not by design did the first-beginnings of things place themselves each in their order with foreseeing mind, nor indeed did they make compact what movements each should start, but because many of them shifting in many ways throughout the world are harried and buffeted by blows from limitless time, by trying movements and unions of every kind, at last they fall into such dispositions as those, whereby our world of things is created and holds together. And it too, preserved from harm through many a mighty cycle of years, when once it has been cast into the movements suited to its being, brings it about that the rivers replenish the greedy sea with the bounteous waters of their streams, and the earth, fostered by the sun's heat, renews its increase, and the race of living things flourishes, sent up from her womb, and the gliding fires of heaven are alive; all this they would in no wise do, unless store of matter might rise up from limitless space, out of which they are used to renew all their losses in due season. For even as the nature of living things, robbed of food, loses its flesh and pines away, so all things must needs be dissolved, when once matter has ceased to come for their supply, turned aside in any way from its due course. Nor can blows from without on all sides keep together the whole of each world which has come together in union. For they can smite on it once and again, and keep a part in place, until

or even
have been
created.

Our world
was not
formed by
design
but by the
chance
movements
of atoms.

Its preser-
vation by
blows from
without.

Necessity
of infinity
of matter.

others come, and the sum may be supplied. Yet sometimes they are constrained to rebound and at once afford space and time for flight to the first-beginnings of things, so that they can pass away freed from union. Therefore, again and again, it must be that many things rise up, yea, and in order that even the blows too may not fail, there must needs be limitless mass of matter on all sides.

False
theory of
Stoics: the
world is
held
together by
centripetal
force.

Its absur-
dities.

Herein shrink far from believing,¹ Memmius, what some say: that all things press towards the centre of a sum, and that 'tis for this cause that the nature of the world stands fast without any blows from outside, and that top and bottom cannot part asunder in any direction, because all things are pressing upon the centre (if indeed you can believe that anything can stand upon itself): and that all heavy things which are beneath the earth press upwards, and rest placed upside down upon the earth, like the images of things which we see, as it is, through water. And in the same way they maintain that living things walk head downwards, and cannot fall off the earth into the spaces of heaven beneath them any more than our bodies can of their free will fly up into the quarters of heaven: that when they see the sun, we are descrying the stars of night, and that they share with us turn by turn the seasons of the sky, and pass nights equal to our days.¹ But empty error has commended these false ideas to fools, because they embrace and hold a theory with twisted reasoning. For there can be no centre, since the universe is created infinite. Nor, if indeed there were a centre, could anything at all rest there any more for

¹ The next eight lines are omitted or mutilated in the MSS., but once more Munro's restoration must give the sense, and probably something very near the actual words.

that, rather than be driven away for some far different reason : for all room and space, which we call void, must through centre or not-centre give place alike to heavy bodies, wherever their motions tend. Nor is there any place, to which when bodies have come, they can lose the force of their weight and stand still in the void ; nor must aught that is void support anything, but rather hasten to give place, as its own nature desires. It cannot be then that things can be held together in union in such a way, constrained by a yearning for the centre.

Moreover, since they do not pretend that all bodies press towards the centre, but only those of earth and liquid, the moisture of the sea and mighty waters from the mountains, and those things which are, as it were, enclosed in an earthy frame ; but on the other hand, they teach that the thin breezes of air and hot fires at the same time are carried away from the centre, and that for this cause all the sky around is twinkling with stars, and the flame of the sun is fed through the blue tracts of heaven, because all the heat fleeing from the centre gathers itself together there ; nor again can the topmost branches grow leafy upon trees, unless from the earth little by little each has food (supplied by nature, their thoughts are not at harmony with themselves. There must then be an infinite store of matter),¹ lest after the winged way of flames the walls of the world suddenly fly apart, dissolved through the great void, and lest all else follow them in like manner, or the thundering quarters of

Its inconsistency ; for not all things seek the centre.

Without infinite matter, the world would be destroyed.

¹ The best MS. marks eight lines lost here, corresponding to the mutilation above : the words in brackets would give the general sense, as suggested by Munro.

the sky fall down from above, and the earth in hot haste withdraw itself from beneath our feet, and amid all the mingled ruin of things on earth and of the sky, whereby the frames of bodies are loosed, it pass away through the deep void, so that in an instant of time not a wrack be left behind, except emptied space and unseen first-beginnings. For on whatever side you maintain that the bodies fail first, this side will be the gate of death for things, by this path will all the throng of matter cast itself abroad.

Progress in
learning.

These things you will learn thus, led on with little trouble ; for one thing after another shall grow clear, nor will blind night snatch away your path from you, but that you shall see all the utmost truths of nature : so shall things kindle a light for others.

BOOK II

SWEET it is, when on the great sea the winds are buffet-
ing the waters, to gaze from the land on another's great
struggles ; not because it is pleasure or joy that any one
should be distressed, but because it is sweet to perceive
from what misfortune you yourself are free. Sweet is it
too, to behold great contests of war in full array over the
plains, when you have no part in the danger. But nothing
is more gladdening than to dwell in the calm high places,
firmly embattled on the heights by the teaching of the
wise, whence you can look down on others, and see them
wandering hither and thither, going astray as they seek
the way of life, in strife matching their wits or rival claims
of birth, struggling night and day by surpassing effort to
rise up to the height of power and gain possession of the
world. Ah ! miserable minds of men, blind hearts ! in
what darkness of life, in what great dangers ye spend
this little span of years ! to think that ye should not see
that nature cries aloud for nothing else but that pain may
be kept far sundered from the body, and that, withdrawn
from care and fear, she may enjoy in mind the sense of
pleasure ! And so we see that for the body's nature but
few things at all are needful, even such as can take away
pain. Yea, though pleasantly enough from time to time
they can prepare for us in many ways a lap of luxury, yet
nature herself feels no loss, if there are not golden images
of youths about the halls, grasping fiery torches in their
right hands, that light may be supplied to banquets at

Introduc-
tion : the
calm
heights of
philosophy.

Nature's
needs

for the
body

night, if the house does not glow with silver or gleam with gold, nor do fretted and gilded ceilings re-echo to the lute. And yet, for all this, men lie in friendly groups on the soft grass near some stream of water under the branches of a tall tree, and at no great cost delightfully refresh their bodies, above all when the weather smiles on them, and the season of the year bestrews the green grass with flowers. Nor do fiery fevers more quickly quit the body, if you toss on broidered pictures and blushing purple, than if you must lie on the poor man's plaid. Wherefore since in our body riches are of no profit, nor high birth nor the glories of kingship, for the rest, we

and for the
mind.
Earthly
power and
the terrors
of Religion.

must believe that they avail nothing for the mind as well; unless perchance, when you see your legions swarming over the spaces of the Campus,ⁿ and provoking a mimic war, strengthened with hosts in reserve and forces of cavalry,¹ when you draw them up equipped with arms,² all alike eager for the fray, when you see the army wandering far and wide in busy haste, then alarmed by all this the scruples of religion fly in panic from your mind, or that the dread of death leaves your heart empty and free from care. But if we see that these thoughts are mere mirth and mockery, and in very truth the fears of men and the cares that dog them fear not the clash of arms nor the weapons of war, but pass boldly among kings and lords of the world, nor dread the glitter that comes from gold nor the bright sheen of the purple robe, can you doubt that all such power belongs to reason alone, above all when the wnoie of life is but a struggle in darkness? For even as children tremble and fear everything

Religion
and
Philosophy.

¹ Read with Munro, *et ecum vi*.

² Read with Munro, *ornatasque armis statuas*.

in blinding darkness, so we sometimes dread in the light things that are no whit more to be feared than what children shudder at in the dark, and imagine will come to pass. This terror then, this darkness of the mind, must needs be scattered not by the rays of the sun and the gleaming shafts of day, but by the outer view and the inner law of nature.

Come now, I will unfold by what movement the creative bodies of matter beget diverse things, and break up those that are begotten, by what force they are constrained to do this, and what velocity is appointed them for moving through the mighty void: do you remember to give your mind to my words. For in very truth matter does not cleave close-packed to itself, since we see each thing grow less, and we perceive all things flow away, as it were, in the long lapse of time, as age withdraws them from our sight: and yet the universe is seen to remain undiminished, inasmuch as all bodies that depart from anything, lessen that from which they pass away, and bless with increase that to which they have come; they constrain the former to grow old and the latter again to flourish, and yet they abide not with it. Thus the sum of things is ever being replenished, and mortals live one and all by give and take. Some races wax and others wane, and in a short space the tribes of living things are changed, and like runners hand on the torch of life.

If you think that the first-beginnings of things can stay still, and by staying still beget new movements in things, you stray very far away from true reasoning. For since they wander through the void,ⁿ it must needs be that all the first-beginnings of things move on either by their own weight or sometimes by the blow of another

A. Motion
of the
atoms:

the cause of
successive
growth
and decay.

Their
incessant
movement.
Its two
causes:

movement
of free
atoms in
the void ;

For when quickly, again and again, they have met and clashed together, it comes to pass that they leap asunder at once this way and that ; for indeed it is not strange, since they are most hard with solid heavy bodies, and nothing bars them from behind. And the more you perceive all the bodies of matter tossing about, bring it to mind that there is no lowest point in the whole universe, nor have the first-bodies any place where they may come to rest, since I have shown in many words, and it has been proved by true reasoning, that space spreads out without bound or limit, immeasurable towards every quarter everywhere. And since that is certain, no rest, we may be sure, is allowed to the first-bodies moving through the deep void, but rather plied with unceasing, diverse motion, some when they have dashed together leap back at great space apart, others too are thrust but a short way from the blow. And all those which are driven together in more close-packed union and leap back but a little space apart, entangled by their own close-locking shapes, these make the strong roots of rock and the brute bulk of iron and all other things of their kind. Of the rest which wander through the great void, a few leap far apart, and recoil afar with great spaces between ; these supply for us thin air and the bright light of the sun. Many, moreover, wander on through the great void, which have been cast back from the unions of things, nor have they anywhere else availed to be taken into them and link their movements. And of this truth, as I am telling it, a likeness and image is ever passing presently before our eyes. For look closely, whenever rays are let in and pour the sun's light through the dark places in houses : for you will see many tiny bodies mingle

movement
of atoms in
compounds.

Illustration
from the

in many ways all through the empty space right in the light of the rays, and as though in some everlasting strife wage war and battle, struggling troop against troop, nor ever crying a halt, harried with constant meetings and partings ; so that you may guess from this what it means that the first-beginnings of things are for ever tossing in the great void. So far as may be, a little thing can give a picture of great things and afford traces of a concept.ⁿ And for this reason it is the more right for you to give heed to these bodies, which you see jostling in the sun's rays, because such jostlings hintⁿ that there are movements of matter too beneath them, secret and unseen. For you will see many particles there stirred by unseen blows change their course and turn back, driven backwards on their path, now this way, now that, in every direction everywhere. You may know that this shifting movement comes to them all from the first-beginnings. For first the first-beginnings of things move of themselves ; then those bodies which are formed of a tiny union, and are, as it were, nearest to the powers of the first-beginnings, are smitten and stirred by their unseen blows, and they in their turn, rouse up bodies a little larger. And so the movement passes upwards from the first-beginnings, and little by little comes forth to our senses, so that those bodies move too, which we can descry in the sun's light ; yet it is not clearly seen by what blows they do it.

motes in the
sunbeam ;

a picture
and an
indication
of the
unseen
movements
of the
atoms.

Next, what speed of movement is given to the first-bodies of matter, you may learn, Memmius, in a few words from this. First, when dawn strews the land with new light, and the diverse birds flitting through the distant woods across the soft air fill the place with their clear cries, we see that it is plain and evident for all to behold

Velocity
of the
atoms.
Compari-
son with
sunlight,

which yet
 is impeded
 by external
 opposition

 and
 internal
 vibration,

 whereas the
 atoms are
 quite
 unchecked.

how suddenly the sun is wont at such a time to rise and
 clothe all things, bathing them in his light. And yet that
 heat which the sun sends out, and that calm light of his,
 is not passing through empty space; therefore, it is con-
 strained to go more slowly, while it dashes asunder, as it
 were, the waves of air. Nor again do the several particles¹
 of heat move on one by one, but entangled one with
 another, and joined in a mass; therefore they are at once
 dragged back each by the other, and impeded from with-
 out, so that they are constrained to go more slowly. But
 the first-beginnings, which are of solid singleness, when
 they pass through the empty void, and nothing checks
 them without, and they themselves, single wholes with
 all their parts, are borne, as they press on, towards the
 one spot which they first began to seek, must needs, we
 may be sure, surpass in speed of motion, and be carried
 far more quickly than the light of the sun, and rush
 through many times the distance of space in the same
 time in which the flashing light of the sun crowds the sky.

1

.
 nor to follow up each of the first-beginnings severally, to
 see by what means each single thing is carried on.

False
 theory that
 the world
 is made for

Yet a certain sect, against all this, ignorant (that the
 bodies) of matter (fly on of their own accord, unvanquished
 through the ages,) ² believe that nature cannot without the

¹ A considerable number of lines seems to be lost here, in which
 Lucretius probably first gave other reasons for the atoms' velocity, and
 then fulfilled the promise of line 62 to explain how the atoms by their
 motion created and dissolved things: the next two lines read like
 a conclusion of such a section.

² A line is probably lost here, of which Hoerschelmann has restored
 the sense: corpora sponte sua volitare invicta per aevum.

power of the gods, in ways so nicely tempered to the needs of men, change the seasons of the year, and create the crops, and all else besides, which divine pleasure wins men to approach, while she herself, the leader of life, leads on and entices them by the arts of Venus to renew their races, that the tribe of mankind may not perish. But when they suppose that the gods have appointed all things for the sake of men, they are seen in all things to fall exceeding far away from true reason. For however little I know what the first-beginnings of things are, yet this I would dare to affirm from the very workings of heaven, and to prove from many other things as well, that the nature of the world is by no means made by divine grace for us : so great are the flaws with which it stands beset. And this, Memmius, I will make clear to you hereafter. Now I will set forth what yet remains about the movements.

men by
divine
power ;

but it is
made so
badly.

Now is the place, I trow, herein to prove this also to you, that no bodily thing can of its own forceⁿ be carried upwards or move upwards ; lest the bodies of flames give you the lie herein. For upwards indeed the smiling crops and trees are brought to birth, and take their increase, upwards too they grow, albeit all things of weight, as far as in them lies, are borne downwards. Nor when fires leap up to the roofs of houses, and with swift flame lick up beams and rafters, must we think that they do this of their own will, shot up without a driving force. Even as when blood shot out from our body spirts out leaping up on high, and scatters gore. Do you not see too with what force the moisture of water spews up beams and rafters? For the more we have pushed them straight down deep in the water, and with might and main have

Causes of
atomic
motion :

I. the
universal
motion
down-
wards :
upward
motion is
always due
to force ;

pressed them, striving with pain many together, the more eagerly does it spew them up and send them back, so that they rise more than half out of the water and leap up. And yet we do not doubt, I trow, but that all these things, as far as in them lies, are borne downwards through the empty void. Just so, therefore, flames too must be able when squeezed out to press on upwards through the breezes of air, albeit their weights are fighting, as far as in them lies, to drag them downwards. And again, the nightly torches of the sky which fly on high, do you not see that they trail long tracts of flames behind towards whatever side nature has given them to travel? do you not descry stars and constellations falling to earth? The sun too from the height of heaven scatters its heat on every side, and sows the fields with his light; 'tis towards the earth then that the sun's heat also tends. And you descry, too, thunderbolts flying crosswise through the rain; now from this side, now from that the fires burst from the clouds and rush together; the force of flame everywhere falls towards the earth.

2. the
swerve of
the atoms.

Herein I would fain that you should learn this too, that when first-bodies are being carried downwards straight through the void by their own weight, at times quite undetermined and at undetermined spots they push a little from their path:ⁿ yet only just so much as you could call a change of trend. But if they were not used to swerve, all things would fall downwards through the deep void like drops of rain, nor could collision come to be, nor a blow brought to pass for the first-beginnings: so nature would never have brought aught to being.

But if perchance any one believes ⁿ that heavier bodies, because they are carried more quickly straight through the void, can fall from above on the lighter, and so bring about the blows which can give creative motions, he wanders far away from true reason. For all things that fall through the water and thin air, these things must needs quicken their fall in proportion to their weights, just because the body of water and the thin nature of air cannot check each thing equally, but give place more quickly when overcome by heavier bodies. But, on the other hand, the empty void cannot on any side, at any time, support anything, but rather, as its own nature desires, it continues to give place; wherefore all things must needs be borne on through the calm void, moving at equal rate with unequal weights. The heavier will not then ever be able to fall on the lighter from above, nor of themselves bring about the blows, which make diverse the movements, by which nature carries things on. Wherefore, again and again, it must needs be that the first-bodies swerve a little; yet not more than the very least, lest we seem to be imagining a sideways movement, and the truth refute it. For this we see plain and evident, that bodies, as far as in them lies, cannot travel sideways, since they fall headlong from above, as far as you can descry. But that nothing at all swerves from the straight direction of its path, what sense is there which can descry? ¹

False theory that heavier atoms fall faster than lighter.

This is not true in the void.

A slight swerve is necessary,

and is not contradicted by phenomena.

Once again, if every motion is always linked on, and the new always arises from the old in order determined, nor by swerving do the first-beginnings make a certain start of movement to break through the decrees of fate,

The swerve accounts for the power of free motion in living beings.

¹ Read *sensus* for *sese* with Bernays.

It starts
from the
will and
then passes
through all
the limbs.

It is very
different
from
motion
under com-
pulsion.

so that cause may not follow cause from infinite time ; whence comes this free will for living things all over the earth, whence, I ask, is it wrested from fate, this will whereby we move forward, where pleasure leads each one of us, and swerve likewise in our motions neither at determined times nor in a determined direction of place, but just where our mind has carried us ? For without doubt it is his own will which gives to each one a start for this movement, and from the will the motions pass flooding through the limbs. Do you not see too how, when the barriers are flung open, yet for an instant of time the eager might of the horses cannot burst out so suddenly as their mind itself desires ? For the whole store of matter throughout the whole body must be roused to movement, that then aroused through every limb it may strain and follow the eager longing of the mind ; so that you see a start of movement ⁿ is brought to pass from the heart, and comes forth first of all from the will of the mind, and then afterwards is spread through all the body and limbs. Nor is it the same as when we move forward impelled by a blow from the strong might and strong constraint of another. For then it is clear to see that all the matter of the body moves and is hurried on against our will, until the will has reined it back throughout the limbs. Do you not then now see that, albeit a force outside pushes many men and constrains them often to go forward against their will and to be hurried away headlong, yet there is something in our breast, which can fight against it and withstand it ? And at its bidding too the store of matter is constrained now and then to turn throughout the limbs and members, and, when pushed forward, is reined

back and comes to rest again. Wherefore in the seeds too you must needs allow likewise that there is another cause of motion besides blows and weights, whence comes this power born in us, since we see that nothing can come to pass from nothing. For weight prevents all things coming to pass by blows, as by some force without. But that the very mind feels not some necessity within in doing all things, and is not constrained like a conquered thing to bear and suffer, this is brought about by the tiny swerve of the first-beginnings in no determined direction of place and at no determined time.

It is due to the second cause of motion, the swerve of the atoms.

Nor was the store of matter ever more closely packed nor again set at larger distances apart. For neither does anything come to increase it nor pass away from it. Wherefore the bodies of the first-beginnings in the ages past moved with the same motion as now, and hereafter will be borne on for ever in the same way; such things as have been wont to come to being will be brought to birth under the same law, will exist and grow and be strong and lusty, inasmuch as is granted to each by the ordinances of nature. Nor can any force change the sum of things; for neither is there anything outside, into which any kind of matter may escape from the universe, nor whence new forces can arise and burst into the universe and change the whole nature of things and alter its motions.

The sum of motion, like that of matter, is unchangeable.

Herein we need not wonder why it is that, when all the first-beginnings of things are in motion, yet the whole seems to stand wholly at rest, except when anything starts moving with its entire body. For all the nature of the first-bodies lies far away from our senses, below their purview; wherefore, since you cannot reach to look upon them, they must needs steal away their motions

Though a whole body seems at rest, the atoms are in unseen motion.

Parallels in
experience.

from you too ; above all, since such things as we can look upon, yet often hide their motions, when withdrawn from us on some distant spot. For often the fleecy flocks cropping the glad pasture on a hill creep on whither each is called and tempted by the grass bejewelled with fresh dew, and the lambs fed full gambol and butt playfully ; yet all this seems blurred to us from afar, and to lie like a white mass on a green hill. Moreover, when mighty legions fill the spaces of the plains with their chargings, awaking a mimic warfare, a sheen rises there to heaven and all the earth around gleams with bronze, and beneath a noise is roused by the mighty mass of men as they march, and the hills smitten by their shouts turn back the cries to the stars of the firmament, and the cavalry wheel round and suddenly shake the middle of the plains with their forceful onset, as they scour across them. And yet there is a certain spot on the high hills, whence all seems to be at rest and to lie like a glimmering mass upon the plains.

B. The
shapes of
the atoms.
Their
variety,

which arises
from the
infinite
number of
the atoms,

and is the
cause of the
distinction
of individuals in the
same
species.

Now come, next in order learn of what kind are the beginnings of all things and how far differing in form, and how they are made diverse with many kinds of shapes ; not that but a few are endowed with a like form, but that they are not all alike the same one with another. Nor need we wonder ; for since there is so great a store of them, that neither have they any limit, as I have shown, nor any sum, it must needs be, we may be sure, that they are not all of equal bulk nor possessed of the same shape. Moreover, the race of men, and the dumb shoals of scaly creatures which swim the seas, and the glad herds and wild beasts, and the diverse birds, which throng the gladdening watering-places all around the

riverbanks and springs and pools, and those which flit about and people the distant forests; of these go and take any single one you will from among its kind, yet you will find that they are different in shape one from another. Nor in any other way could the offspring know its mother, or the mother her offspring; yet we see that they can, and that they are clearly not less known to one another than men. For often before the sculptured shrines of the gods a calf has fallen, slaughtered hard by the altars smoking with incense, breathing out from its breast the hot tide of blood. But the mother bereft wanders over the green glades and seeks¹ on the ground for the footprints marked by those cloven hoofs, scanning every spot with her eyes, if only she might anywhere catch sight of her lost young, and stopping fills the leafy grove with her lament: again and again she comes back to the stall, stabbed to the heart with yearning for her lost calf, nor can the tender willows and the grass refreshed with dew and the loved streams, gliding level with their banks, bring gladness to her mind and turn aside the sudden pang of care, nor yet can the shapes of other calves among the glad pastures turn her mind to new thoughts or ease it of its care: so eagerly does she seek in vain for something she knows as her own. Moreover, the tender kids with their trembling cries know their horned dams and the butting lambs the flocks of bleating sheep: so surely, as their nature needs, do they run back always each to its own udder of milk. Lastly, take any kind of corn, you will not find that every grain is like its fellows, each in its several kind, but that there runs through all

Illustrations: the cow and her calf;

kids and lambs and their mothers;

grains of corn;

¹ This should be the sense, but the reading is uncertain: possibly *querit*.

shells.

some difference between their forms. And in like manner we see the race of shells painting the lap of earth, where with its gentle waves the sea beats on the thirsty sand of the winding shore. Wherefore again and again in the same way it must needs be, since the first-beginnings of things are made by nature and not fashioned by hand to the fixed form of one pattern, that some of them fly about with shapes unlike one another.

It is owing to this variety that some things pass through, where others are checked.

It is very easy by reasoning of the mind for us to read the riddle why the fire of lightning is far more piercing than is our fire rising from pine-torches on earth. For you might say that the heavenly fire of lightning is made more subtle and of smaller shapes, and so passes through holes which our fire rising from logs and born of the pine-torch cannot pass. Again light passes through horn-lanterns, but the rain is spewed back. Why? unless it be that those bodies of light are smaller than those of which the quickening liquid of water is made. And we see wine flow through the strainer as swiftly as you will; but, on the other hand, the sluggish olive-oil hangs back, because, we may be sure, it is composed of particles either larger or more hooked and entangled one with the other, and so it comes about that the first-beginnings cannot so quickly be drawn apart, each single one from the rest, and so ooze through the single holes of each thing.

To it are due differences of taste,

There is this too that the liquids of honey and milk give a pleasant sensation of the tongue, when rolled in the mouth; but on the other hand, the loathsome nature of wormwood and biting centaury set the mouth awry by their noisome taste; so that you may easily know that those things which can touch the senses pleasantly are made of smooth and round bodies, but

that on the other hand all things which seem to be bitter and harsh, these are held bound together with particles more hooked, and for this cause are wont to tear a way into our senses, and at their entering in to break through the body.

Lastly, all things good or bad to the senses in their touch fight thus with one another, because they are built up of bodies of different shape ; lest by chance you may think that the harsh shuddering sound ⁿ of the squeaking saw is made of particles as smooth as are the melodies of music which players awake, shaping the notes as their fingers move nimbly over the strings ; nor again, must you think that first-beginnings of like shape pierce into men's nostrils, when noisome carcasses are roasting, and when the stage is freshly sprinkled with Cilician saffron, and the altar hard by is breathing the scent of Arabian incense ; nor must you suppose that the pleasant colours of things, which can feed our eyes, are made of seeds like those which prick the pupil and constrain us to tears, or look dreadful and loathly in their hideous aspect. For every shape, which ever charms the senses, has not been brought to being without some smoothness in the first-beginnings ; but, on the other hand, every shape which is harsh and offensive has not been formed without some roughness of substance. Other particles there are, moreover, which cannot rightly be thought to be smooth nor altogether hooked with bent points, but rather with tiny angles standing out a little, insomuch that they can tickle the senses rather than hurt them ; and of this kind is lees of wine and the taste of endive. Or again, that hot fires and cold frost have particles fanged in different ways to prick the senses of the body, is proved

and all differences of sensation in hearing,

smell,

and sight.

Pleasure and pain are determined by the shapes of the particles ;

for touch is the ultimate cause of all sensation. to us by the touch of each. For touch, yea touch, by the holy powers of the gods, is the sense of the body, either when something from without finds its way in, or when a thing which is born in the body hurts us, or gives pleasure as it passes out, or else when the seeds after collision jostle within the body itself and, roused one by another, disturb our sense: as if by chance you should with your hand strike any part of your own body and so make trial. Therefore the first-beginnings must needs have forms far different, which can produce such diverse feelings.

Further differences and the atomic shapes which cause them: hard things;

liquid things;

pungent and evanescent things;

Or, again, things which seem to us hard and compact, these, it must needs be, are made of particles more hooked one to another, and are held together close-fastened at their roots, as it were by branching particles. First of all in this class diamond stones stand in the forefront of the fight, well used to despise all blows, and stubborn flints and the strength of hard iron, and brass sockets, which scream aloud as they struggle against the bolts. Those things indeed must be made of particles more round and smooth, which are liquid with a fluid body: for indeed a handful of poppy-seed moves easily just as a draught of water; for the several round particles are not checked one by the other, and when struck, it will roll downhill just like water. Lastly, all things which you perceive flying asunder, like smoke, clouds and flames, it must needs be that even if they are not made entirely of smooth and round particles, yet they are not hampered by particles closely linked, so that they can prick the body, and pass into rocks, and yet not cling one to another: so that you can easily learn that, whatever we see (borne asunder by the

tearing winds and) meeting our senses (as poison),¹ are of elements not closely linked but pointed. But because you see that some things which are fluid, are also bitter, as is the brine of the sea, count it no wonder. For because it is fluid, it is of smooth and round particles, and many rugged bodies mingled in it give birth to pain; and yet it must needs be that they are not hooked and held together: you must know that they are nevertheless spherical, though rugged, so that they can roll on together and hurt the senses. And that you may the more think that rough are mingled with smooth first-beginnings, from which is made the bitter body of the sea-god, there is a way of sundering them and seeing how, apart from the rest, the fresh water, when it trickles many a time through the earth, flows into a trench and loses its harshness; for it leaves behind up above the first-beginnings of its sickly saltness, since the rough particles can more readily stick in the earth.²

And since I have taught this much, I will hasten to link on a truth which holds to this and wins belief from it, that the first-beginnings of things are limited in the tale of their varying shapes. If it were not to be so, then once again certain seeds must needs be of unbounded bulk of body. For, within the same tiny frame of any one single seed, the shapes of the body cannot be very diverse. For suppose the first-bodiesⁿ to be of three

liquid but
bitter
things.

Differences
of shapes of
atoms
limited in
number.
Otherwise
i. some
atoms
would be of
vast size;

¹ The text is corrupt and a line is probably lost; the translation follows Brieger's restoration:

ventis differri rapidis, nostrisque veneno
sensibus esse datum,

² It is likely that a paragraph is here lost in which Lucretius showed that the size of the atoms was limited: otherwise some would be perceptible. To this he probably refers in lines 479, 481 and 499.

least parts, or if you will, make them larger by a few more ; in truth when you have tried all those parts of one body in every way, shifting top and bottom, changing right with left, to see what outline of form in that whole body each arrangement gives, beyond that, if by chance you wish to make the shapes different, you must needs add other parts ; thence it will follow that in like manner the arrangement will ask for other parts, if by chance you still wish to make the shapes different : and so greater bulk in the body follows on newness of forms. Wherefore it is not possible that you can believe that there are seeds with unbounded difference of forms, lest you constrain certain of them to be of huge vastness, which I have taught above cannot be approved.¹ At once you would see barbaric robes and gleaming Meliboean purple, dyed with the colour of Thessalian shells, and the golden tribes of peacocks, steeped in smiling beauty, lie neglected and surpassed by the new colours in things ; and the smell of myrrh and the taste of honey would be despised, and the swan's song and the many-toned melodies on Phoebus's strings would in like manner be smothered and mute : for something more excellent than all else would ever be arising. Likewise, all things would sink back on the worse side, just as we have told that they would rise towards the better. For, on the other hand, something would be more loathly too than all else to nostrils and ears and eyes, and the taste of the mouth. And since these things are not so,

2. all
extremes
in our
experience
would be
surpassed.

As it is,

¹ Again it is likely that some lines are lost in which Lucretius stated the general argument that if variety of shapes in the atoms were infinite, all extremes in our experience would be far surpassed : he then proceeds to illustration.

but a fixed limit to things marks the extreme on either side, you must needs confess that the first-matter too has a limited difference in shapes. Again from fire right on to the icy frost of winter ¹ is but a limited way, and in like manner is the way measured back again. For all heat and cold and tepid warmths in the middle lie between the two, filling up the sum in due order. And so they are brought to being differing with limited degrees, since they are marked off at either end by the twin points, beset on this side by flames, on that by stiffening frosts.

there are fixed limits.

And since I have taught this much, I will hasten to link on a truth which holds to it and wins belief from it, that the first-beginnings of things, which are formed with a shape like to one another, are in number infinite.

The atoms of any one shape are infinite in number.

For since the difference of forms is limited, it must needs be that those which are alike are unlimited, or else that the sum of matter is created limited, which I have proved not to be, showing ² in my verses that the tiny bodies of matter from everlasting always keep up the sum of things,

Otherwise, the sum of matter would be limited.

as the team of blows is harnessed on unbroken on every side. For in that you see ⁿ that certain animals are more rare, and perceive that nature is less fruitful in them, yet in another quarter and spot, in some distant lands, there may be many in that kind, and so the tale is made up ;

Animals rare in one place are common in another.

even as in the race of four-footed beasts we see that elephants with their snaky hands come first of all, by whose many thousands India is embattled with a bulwark of ivory, so that no way can be found into its inner parts : so great is the multitude of those beasts, whereof we see but a very few samples. But still, let me grant this too, let there be, if you will, some one thing unique, alone in the body of its birth, to which there is not

Even a unique thing would

¹ This is the sense, though the text is uncertain.

² Reading *ostendens* with Munro.

imply
infinite
atoms of
the required
kind.

If limited
in number,
they might
be tossed
about the
universe
and never
meet.

a fellow in the whole wide world; yet unless there is an unlimited stock of matter, from which it might be conceived and brought to birth, it will not be able to be created, nor, after that, to grow on and be nourished.

Nay, in very truth, if I were to suppose this too, that the bodies creative of one single thing were limited as they tossed about the universe, whence, where, by what force, in what manner will they meet and come together in that vast ocean, that alien turmoil of matter? They have not, I trow, a plan for union, but as, when many a great shipwreck has come to pass, the great sea is wont to cast hither and thither benches, ribs, yards, prow, masts and swimming oars, so that along all the coasts of the lands floating stern-pieces are seen, giving warning to mortals, to resolve to shun the snares of the sea and its might and guile, nor trust it at any time, when the wiles of the windless waves smile treacherous; even so, if you once suppose that the first-beginnings of a certain kind are limited, then scattered through all time they must needs be tossed hither and thither by the tides of matter, setting towards every side, so that never can they be driven together and come together in union, nor stay fixed in union, nor take increase and grow; yet that each of these things openly comes to pass, fact proves for all to see, that things can be brought to birth and being born can grow. It is manifest then that there are, in any kind of things you will, infinite first-beginnings, by which all things are supplied.

Creation
and destruc-
tion wage
equal
warfare.

And so, neither can the motions of destruction prevail for ever, and bury life in an eternal tomb, nor yet can the motions of creation and increase for ever bring things to birth and preserve them. So war waged from time

everlasting is carried on by the balanced strife of the first-beginnings. Now here, now there, the vital forces of things conquer and are conquered alike. With the funeral mingles the wailing which babies raise as they come to look upon the coasts of light; nor has night ever followed on day, or dawn on night, but that it has heard mingled with the baby's sickly wailings, the lament that escorts death and the black funeral.

Herein it is right to have this truth also surely sealed and to keep it stored in your remembering mind, that there is not one of all the things, whose nature is seen before our face, which is built of one kind of first-beginnings, nor anything which is not created of well-mingled seed; and whatever possesses within it more forces and powers, it thus shows that there are in it most kinds of first-beginnings and diverse shapes. First of all the earth holds within it the first-bodies, by which the springs welling out coldness ever and anon renew the measureless sea, it holds those whence fires are born. For in many places the surface of the earth is kindled and blazes, but the outburst of Aetna rages with fire from its lowest depths. Then further, it holds those whence it can raise for the races of men the smiling crops and glad trees, whence too it can furnish to the tribe of wild beasts, which ranges the mountains, streams, leaves and glad pastures. Wherefore earth alone has been called the Great Mother of the gods,¹ and the mother of the wild beasts, and the parent of our body.

Nothing is created of one single kind of atoms.

Earth has every kind,

and is therefore called Mother.

Of her in days of old the learned poets of the Greeks sang that (borne on from her sacred)¹ shrine in her car she

The worship of Mother

¹ A line is lost, of which this must have been the general sense.

Earth as
Cybele.
The
meaning
of her
attributes:
the lions;
the mural
crown;

the
Phrygian
escort;

the Galli;

music

and
weapons;

the
Curetes.

drove a yoke of lions, teaching thereby that the great earth hangs in the space of air nor can earth rest on earth. To the car they yoked wild beasts, because, however wild the brood, it ought to be conquered and softened by the loving care of parents. The top of her head they wreathed with a battlemented crown, because embattled on glorious heights she sustains towns; and dowered with this emblem even now the image of the divine mother is carried in awesome state through lands far and wide. On her the diverse nations in the ancient rite of worship call as the Mother of Ida, and they give her Phrygian bands to bear her company, because from those lands first they say corn began to be produced throughout the whole world. The mutilated priests they assign to her, because they wish to show forth that those who have offended the godhead of the Mother, and have been found ungrateful to their parents, must be thought to be unworthy to bring offspring alive into the coasts of light. Taut timbrels thunder in their hands, and hollow cymbals all around, and horns menace with harsh-sounding bray, and the hollow pipe goads their minds in the Phrygian mode, and they carry weapons before them, the symbols of their dangerous frenzy, that they may be able to fill with fear of the goddess's power the thankless minds and unhallowed hearts of the multitude. And so as soon as she rides on through great cities, and silently blesses mortals with unspoken salutation, with bronze and silver they strew all the path of her journey, enriching her with bounteous alms, and snow rose-blossoms over her, overshadowing the Mother and the troops of her escort. Then comes an armed band,ⁿ whom the Greeks call by name the Curetes of Phrygia, and because now and again

they join in mock conflict of arms and leap in rhythmic movement, gladdened at the sight of blood and shaking as they nod the awesome crests upon their heads, they recall the Curetes of Dicte, who are said once in Crete to have drowned the wailing of the infant Jove, while, a band of boys around the baby boy, in hurrying dance all armed, they beat in measured rhythm brass upon brass, that Saturn might not seize and commit him to his jaws, and plant an everlasting wound deep in the Mother's heart. For this cause in arms they escort the Great Mother, or else because they show forth that the goddess preaches that they should resolve with arms and valour to defend their native land and prepare to be a guard and ornament to their parents. Yet all this, albeit well and nobly set forth and told, is nevertheless far removed from true reasoning. For it must needs be that all the nature of the gods enjoys life everlasting in perfect peace, sundered and separated far away from our world. For free from all grief, free from danger, mighty in its own resources, never lacking aught of us, it is not won by virtuous service nor touched by wrath. Verily, the earth is without feeling throughout all time, and 'tis because it has possession of the first-beginnings of many things, that it brings forth many in many ways into the light of the sun. Herein, if any one is resolved to call the sea Neptune and corn Ceres, and likes rather to misuse the title of Bacchus than to utter the true name of the vine-juice, let us grant that he may proclaim that the world is the Mother of the gods, if only in very truth he forbear to stain his own mind with shameful religious awe.

Yet all this is false.

The gods live a placid life apart from the world.

And so often fleecy flocks and the warrior brood of

The same
food may
nourish
different
animals.

horses and horned herds, cropping the grass from one field beneath the same canopy of heaven, and slaking their thirst from one stream of water, yet live their life with different aspect, and keep the nature of their parents and imitate their ways each after his own kind. So great is the difference of matter in any kind of grass

Their flesh,
bones, &c.,
are dif-
ferent.

you will, so great in every stream. Moreover, any one living creature of them all is made of bones, blood, veins, heat, moisture, flesh and sinews: and they as well are far different, formed as they are with first-beginnings of unlike shape. Then once again, all things that are set ablaze and burnt up by fire, store in their body, if nothing else, yet at least those particles, from which they may be able to toss fire abroad and shoot out light, and make sparks fly, and scatter cinders far and wide. Traversing all other things with the like reasoning of your mind, you will find then that they hide in their body the seeds of many things and contain diverse shapes.

Different
bodies
contain
the seeds
of fire.

The same
thing
can stir
different
senses.

Again, you see many things to which both colour and taste are given together with smell. First of all, most of the offerings (burnt on the altars of the gods):¹ these then must needs be made of diverse shapes; for the burning smell pierces, where the hue passes not into the limbs, even so the hue in one way, the taste in another, finds its way into our senses; so that you may know that they differ in the shapes of their first-bodies. So different forms come together into one mass and things are made with mingled seeds. Nay, more, everywhere in these very verses of mine you see many letters common to many words, and yet you must needs grant that verses and words are formed of different letters, one from

All things
then con-
tain atoms
of various
shapes.

¹ A line is lost here, of which this was the probable sense.

another; not that but a few letters run through them in common, or that no two of them are made of letters all the same, but that they are not all alike the same one with another. So in other things likewise since there are first-beginnings common to many things, yet they can exist with sums different from one another: so that the human race and corn and glad trees are rightly said to be created of different particles.

There are common elements, but the sums are different.

And yet we must not think that all particles can be linked together in all ways, for you would see monsters ⁿ created everywhere, forms coming to being half man, half beast, and sometimes tall branches growing out from a living body, and many limbs of land-beasts linked with beasts of the sea, and nature too throughout the lands, that are the parents of all things, feeding Chimaeras breathing flame from their noisome mouths. But it is clear to see that none of these things comes to be, since we see that all things are born of fixed seeds and a fixed parent, and can, as they grow, preserve their kind. You may be sure that that must needs come to pass by a fixed law. For its own proper particles separate from every kind of food and pass within into the limbs of everything, and are there linked on and bring about the suitable movements. But, on the other hand, we see nature cast out alien matter on to the ground, and many things with bodies unseen flee from the body, driven by blows, which could not be linked to any part nor within feel the lively motions in harmony with the body and imitate them. But lest by chance you should think that living things alone are bound by these laws, the same condition sets a limit to all things. For even

But not all combinations are possible.

Each thing has its appropriate seeds, food, and movements.

This is true of inanimate as well as

living
things.

as all things begotten are in their whole nature unlike one to the other, so it must needs be that each is made of first-beginnings of a different shape; not that but a few are endowed with a like form, but that they are not all alike the same one with another. Moreover, since the seeds are different, there must needs be a difference in their spaces, passages, fastenings, weights, blows, meetings, movements, which not only sunder living things, but part earth and the whole sea, and hold all the sky away from the earth.

C. The
atoms have
no colour,

Come now, listen to discourse gathered by my joyful labour, lest by chance you should think that these white things, which you perceive shining bright before your eyes are made of white first-beginnings, or that things which are black are born of black seeds; or should believe that things which are steeped in any other colour you will, bear this colour because the bodies of matter are dyed with a colour like it. For the bodies of matter have no colour at all, neither like things nor again unlike them.

though the
mind can
well con-
ceive them.

And if by chance it seems to you that the mind cannot project itselfⁿ into these bodies, you wander far astray. For since those born blind, who have never descried the light of the sun, yet know bodies by touch, never linked with colour for them from the outset of their life, you may know that for our mind too, bodies painted with no tint may become a clear concept.ⁿ Again, we ourselves feel that whatever we touch in blind darkness is not dyed with any colour. And since I convince you that this may be, I will now teach you that <the first-beginnings> are <deprived of all colour>.¹

1. Colour
changes,

For any colour, whatever it be, changes into any other;

¹ A line is lost, of which this must have been the sense.

but the first-beginnings ought in no wise to do this. For it must needs be that something abides unchangeable, that all things be not utterly brought to naught. For whenever a thing changes and passes out of its own limits, straightway this is the death of that which was before. Therefore take care not to dye with colour the seeds of things, lest you see all things altogether pass away to naught.

Moreover, if the nature of colour has not been granted to the first-beginnings, and yet they are endowed with diverse forms, out of which they beget and vary colours of every kind, forasmuch as it is of great matter with what others all the seeds are bound up, and in what position, and what movements they mutually give and receive, you can most easily at once give account, why those things which were a little while before of black colour, are able of a sudden to become of marble whiteness; as the sea, when mighty winds have stirred its level waters, is turned into white waves of shining marble. For you might say that when the substance of that which we often see black has been mingled up, and the order of its first-beginnings changed and certain things added and taken away, straightway it comes to pass that it is seen shining and white. But if the level waters of the ocean were made of sky-blue seeds, they could in no wise grow white. For in whatever way you were to jostle together seeds which are sky-blue, never can they pass into a marble colour. But if the seeds which make up the single unmixed brightness of the sea are dyed with this colour and that, even as often out of different forms and diverse shapes some square thing is made up with a single shape, then it were natural that, as in the square we perceive that there are unlike forms, so we

but the atoms must be unchangeable.

2. If atoms are colourless, their varieties of shape, &c., will account for the different colours of things.

But (a) if they are of the colour of the things they compose, change is impossible, and (b) if they are of all colours, the separate colours would be seen,

and the whole could not be uniform in colour ;

further, this contradicts our reason for thinking atoms might have colour.

3. Colour needs light, with which the atoms have no relation.

4. The perception of colour is due to a

should perceive in the water of the ocean, or in any other single and unmixed brightness, colours far different and diverse one from another. Moreover, the unlike shapes do not a whit thwart and hinder the whole from being square in its outline ; but the diverse colours in things do check and prevent the whole thing being of a single brightness. Then, further, the reason which leads us on and entices us sometimes to assign colours to the first-beginnings of things, is gone, since white things are not made of white, nor those which are seen black of black, but of diverse colours. And in very truth much more readily will white things be born and rise up out of no colour than out of black, or any other colour you will which fights with it and thwarts it.

Moreover, since colours cannot be without light nor do the first-beginnings of things come out into the light, you may know how they are not clothed with any colour. For what colour can there be in blind darkness? Nay even in the light it changes according as it shines brightly, struck with a straight or slanting beam of light ; even as the plumage of doves, which is set about their throats and crowns their necks, is seen in the sunshine ; for anon it comes to pass that it is red with bright garnet, sometimes in a certain view it comes to pass that it seems to mingle green emeralds among coral. And the tail of the peacock, when it is bathed in bounteous light, in like manner changes its colours as it moves round ; and since these colours are begotten by a certain stroke of light, you may know that we must not think that they could come to be without it. And since the pupil of the eye receives in itself a certain kind of blow, when it is said to perceive white colour, and another again, when it perceives black

and the rest, nor does it matter with what colour things you touch may choose to be endowed, but rather with what sort of shape they are fitted, you may know that the first-beginnings have no need of colours, but by their diverse forms produce diverse kinds of touch.

Moreover, since no fixed nature of colour belongs to fixed shapes, and all conformations of first-beginnings may exist in any hue you will, why on like grounds are not those things which are made out of them steeped with every kind of colour in every kind? For it were natural that often flying crows too should throw off white colour from white wings, and that black swans should be made of black seeds or of any other colour you will, simple or diverse.

Nay again, the more each thing is pulled asunder into tiny parts, the more can you perceive colour little by little fading away and being quenched : as comes to pass when purple is plucked apart into small pieces : when it has been unravelled thread by thread, the dark purple or the scarlet, by far the brightest of colours, is utterly destroyed ; so that you can know from this that the tiny shreds dissipate all their colour before they are sundered into the seeds of things.

Lastly, since you do not allow that all bodies send out sound or smell, it comes to pass, therefore, that you do not assign sound and smell to them. Even so, since we cannot with the eyes descry all things, you may know that some things are made bereft of colour, just as some are without any smell and far parted from sound, yet that the keen mind can come to know them no less than it can mark those devoid of other things.

blow on
the eye :
and for
touch it is
shape, not
colour
which
matters.

5. Colour
and shape
not being
connected,
if atoms
have colour,
we should
have indivi-
duals of
different
colours in
the same
species.

6. The
smaller a
body, the
less colour
it has.

7. Just as
some
things
have not
smell or
sound, so
the atoms
are without
colour

The atoms
are also
without
heat, sound,
taste or
smell,

for they
cannot
emit any-
thing from
their body.

Neither
have atoms
sense.

But lest by chance you think that the first-bodies abide bereft only of colour, they are also sundered altogether from warmth and cold, and fiery heat, and are carried along barren of sound and devoid of taste, nor do they give off any scent of their own from their body. Even as when you set about to make the delicious liquid of marjoram or myrrh, or scent of nard, which breathes nectar to the nostrils, first of all it is right to seek, in so far as you may and can find it, the nature of scentless oil, which may send off no breath of perfume to the nostrils, so that it may as little as possible taint and ruin with its own strong smell the scents mingled in its body and boiled along with it. Therefore after all the first-beginnings of things are bound not to bring to the begetting of things their own scent or sound, since they cannot give anything off from themselves, nor in the same way acquire any taste at all, nor cold, nor once more warm and fiery heat . . . and the rest:¹ yet since they are such as to be created mortal, the pliant of soft body, the brittle of crumbling body, the hollow of rare, they must needs all be kept apart from the first-beginnings, if we wish to place immortal foundations beneath things, on which the sum of life may rest; lest you see all things pass away utterly into nothing.

It must needs be² that you should admit that all things which we see have sense are yet made of insensible first-beginnings. The clear facts, which are known for all to see, neither refute this nor fight against it, but

¹ It is impossible to make sense of the passage as it stands, and Giussani is probably right in supposing several verses lost, in which the poet said that only such things could give anything off as contained void, and then gave a list of examples, ending up with the *cetera* of line 859.

rather themselves lead us by the hand and constrain us to believe that, as I say, living things are begotten of insensible things. Why we may see worms come forth alive from noisome dung, when the soaked earth has gotten muddiness from immeasurable rains; moreover, we may see all things in like manner change themselves. Streams, leaves, and glad pastures change themselves into cattle, cattle change their nature into our bodies, and from our bodies the strength of wild beasts often gains increase, and the bodies of birds strong of wing. And so nature changes all foods into living bodies, and out of food brings to birth all the senses of living things, in no far different way than she unfolds dry logs into flames and turns all things into fires. Do you not then see now that it is of great matter in what order all the first-beginnings of things are placed, and with what others mingled they give and receive motions?

Next then, what is it, that strikes on the very mind, which stirs it and constrains to utter diverse thoughts, that you may not believe that the sensible is begotten of the insensible? We may be sure it is that stones¹ and wood and earth mixed together yet cannot give out vital sense. Herein it will be right to remember this, that I do not say that sensations are begotten at once from all and every of the things which give birth to sensible things, but that it is of great matter, first of what size are these bodies, which create the sensible, and with what form they are endowed, then what they are in their motions, arrangements and positions. And

1. We see the sensible created elsewhere from the senseless.
2. Inanimate food makes animate bodies.

3. The fact that sensible things do not normally arise from the insensible is no objection.

All depends on the size, position, arrangements, and motions of the atoms.

¹ Giussani may be right in thinking that we should read *latices* (water) instead of *lapides* (stones), as it suits better with what follows.

- none of these things can we perceive in logs and sods ; and yet, when they are, as it were, made muddy through the rains, they give birth to little worms, because the bodies of matter stirred by the newcomer from their old arrangements are brought into union in the way in which living things are bound to be begotten. Next, those who think ⁿ that the sensible could be created out of sensible bodies which in turn were used to owe their sense to others, (these make the seeds of their own sense mortal),¹ when they make them soft. For all sensation is linked to flesh, sinews and veins, which we see are always soft in nature built up of mortal body. But still let us grant now that these can abide for ever : still doubtless they must either have ⁿ the sense proper to a part, or be thought to be of a sense like to that of whole living things. But it must needs be that the parts cannot have sense by themselves ; for all sensation in the limbs depends on us, nor severed from us can the hand nor any part of the body at all keep sensation by itself. It remains that they are made like whole living things. Thus it must needs be that they feel likewise what we feel, so that they may be able to share with us in every place in the vital sensations. How then will they be able to be called the first-beginnings of things and to shun the paths of death, since they are living things, and living things are one and the same with mortal things? Yet grant that they can, still by their meeting and union, they will make nothing besides a crowd and mob of living things, even as, as you may
4. Sensible seeds would be soft and therefore mortal.
5. If everlasting, they must either (a) feel as a part of the whole, or (b) as an independent whole. But (a) a part does not feel by itself ; (b) (1) they could not be eternal ; (2) they would only make a confused

¹ A line is lost, which might have been of the form *hi proprii sensus mortalia semina reddunt.*

know, men, herds of cattle and wild beasts could not beget anything by coming together with one another. But if by chance they lose their own sense, when inside a body, and receive another, what good was it that that should be assigned to them which is taken away? Then, moreover, as we saw before, inasmuch as we perceive the eggs of birds turn into living chickens, and worms swarm out when mud has seized on the earth owing to immoderate rains, we may know that sensations can be begotten out of that which is not sensation.

But if by chance any one shall sayⁿ that sensation can in any case arise from not-sensation by change of substance or, as it were, by a kind of birth, by which it is thrust out into being, it will be enough to make clear and prove to him that birth cannot come to be, unless when a union has been formed before, nor is anything changed except after union. First of all, no body at all can have sensation before the nature of the living thing is itself begotten, because, we may be sure, its substance is scattered abroad and is kept in the air, in streams, in earth and things sprung from earth, nor has it come together in appropriate way and combined with one another the vital motions, whereby the all-seeing senses are kindled and see to the safety of each living thing.

Moreover, a heavier blow than its nature can endure, of a sudden fells any living creature, and hastens to stun all the sensations of its body and mind. For the positions of the first-beginnings are broken up and the vital motions are checked deep within, until the substance, after the shock throughout all the limbs, loosens the vital clusters of the soul from the body, scatters it abroad and drives it out through every pore. For what else

mass of sentient beings ;
(3) if in the body they lose their sense, why give it them?
But our previous examples are enough.

6. Sensation cannot arise from the insensate by change or birth ; for both imply union.
(a) A body cannot have sensation before the union of its substance.

(b) A blow puts an end to sensation, because it dissolves unions and stops the vital motions.

Recovery means reunion and motion restarted.

are we to think that a blow can do when it meets each thing, but shake it to pieces and break it up? It comes to pass too, that when a blow meets us with less force, the vital motions that remain are often wont to win, yea, to win and to allay the vast disturbances of the blow and summon each part back again into its proper path, and to shake to pieces the movement of death that now, as it were, holds sway in the body, and to kindle the sensations almost lost. For by what other means could living things gather their wits and turn back to life even from the very threshold of death rather than pass on, whither their race is already almost run, and pass away?

7. Pleasure and pain are caused by the internal movements of atoms: atoms cannot then themselves experience them.

Moreover, since there is pain when the bodies of matter, disturbed by some force throughout the living flesh and limbs, tremble each in their abode within, and when they settle back into their place, comforting pleasure comes to pass, you may know that the first-beginnings cannot be assailed by any pain, and can find no pleasure in themselves: inasmuch as they are not made of any bodies of first-beginnings, through whose newness of movement they may be in pain or find any enjoyment of life-giving delight. They are bound then not to be endowed with any sensation.

8. *Re-ductio ad absurdum.* Sensible atoms must themselves laugh and cry and think and dispute.

Again, if, in order that all living things may be able to feel, we must after all assign sensation to their first-beginnings, what of those whereof the race of men has its peculiar increment? ⁿ You must think that they are shaken with quivering mirth and laugh aloud and sprinkle face and cheeks with the dew of their tears. And they have the wit to say much about the mingling of things, and they go on to ask what are their first-beginnings; inasmuch as, being made like to whole mortal men, they

too must needs be built of other particles in their turn, and those again of others, so that you may never dare to make a stop: nay, I will press hard on you, so that, whatsoever you say speaks and laughs and thinks, shall be composed of other particles which do these same things. But if we perceive this to be but raving madness, and a man can laugh, though he has not the increment of laughing atoms, and can think and give reasons with learned lore, though he be not made of seeds thoughtful and eloquent, why should those things, which, as we see, have feeling, any the less be able to exist, mingled of seeds which lack sense in every way?

And so, we are all sprung from heavenly seed; there is the one father of us all, from whom when live-giving earth, the mother, has taken within her the watery drops of moisture, teeming she brings forth the goodly crops and the glad trees and the race of men; she brings forth too all the tribes of the wild beasts, when she furnishes the food, on which all feed their bodies and pass a pleasant life and propagate their offspring; wherefore rightly has she won the name of mother. Even so, what once sprung from earth, sinks back into the earth, and what was sent down from the coasts of the sky, returns again, and the regions of heaven receive it. Nor does death so destroy things as to put an end to the bodies of matter, but only scatters their union. Then she joins anew one with others, and brings it to pass that all things thus alter their forms, and change their colours, and receive sensations, and in an instant of time yield them up again, so that you may know that it matters with what others the first-beginnings of things are bound up and in what position and what motions they mutually give and receive, and

Summary
Earth is the
universal
mother.

Death
is not
destruction
but re-
formation,
and com-
bination
produces
qualities
and
sensation.

may not think that what we see floating on the surface of things ⁿ or at times coming to birth, and on a sudden passing away, can abide in the possession of eternal first-bodies. Nay, indeed, even in my verses it is of moment with what others and in what order each letter is placed. For the same letters signify sky, sea, earth, rivers, sun, the same too crops, trees, living creatures ; if not all, yet by far the greater part, are alike, but it is by position that things sound different. So in things themselves likewise when meetings, motions, order, position, shapes are changed, things too are bound to be changed.

D. Other
worlds
in space.
Introduc-
tion.
Put aside
the alarm
of novelty,

Now turn your mind, I pray, to a true reasoning. For a truth wondrously new is struggling to fall upon your ears, and a new face of things to reveal itself. Yet neither is anything so easy, but that at first it is more difficult to believe, and likewise nothing is so great or so marvellous but that little by little all decrease their wonder at it. First of all the bright clear colour of the sky, and all it holds within it, the stars that wander here and there, and the moon and the sheen of the sun with its brilliant light ; all these, if now they had come to being for the first time for mortals, if all unforeseen they were in a moment placed before their eyes, what story could be told more marvellous than these things, or what that the nations would less dare to believe beforehand? Nothing, I trow : so worthy of wonder would this sight have been. Yet think how no one now, wearied with satiety of seeing, deigns to gaze up at the shining quarters of the sky ! Wherefore cease to spew out reason from your mind, struck with terror at mere newness, but rather with eager judgement weigh things, and, if you see them true, lift your hands and yield, or, if it is false, gird yourself to battle. For our mind now seeks to reason, since the sum

of space is boundless out beyond the walls of this world, and inquire what there is far out there, whither the spirit desires always to look forward, and whither the unfettered projection of our mindⁿ flies on unchecked. what there is beyond our world.

First of all, we find that in every direction everywhere, and on either side, above and below, through all the universe, there is no limit, as I have shown, and indeed the truth cries out for itself and the nature of the deep shines clear. Now in no way must we think it likely, since towards every side is infinite empty space, and seeds in unnumbered numbers in the deep universe fly about in many ways driven on in everlasting motion, that this one world and sky was brought to birth, but that beyond it all those bodies of matter do naught; above all, since this world was so made by nature, as the seeds of things themselves of their own accord, jostling from time to time, were driven together in many ways, rashly, idly, and in vain, and at last those united, which, suddenly cast together, might become ever and anon the beginnings of great things, of earth and sea and sky, and the race of living things. Wherefore, again and again, you must needs confess that there are here and there other gatherings of matter, such as is this, which the ether holds in its greedy grip. There are other worlds than ours. 1. With infinite atoms meeting in infinite space, chance will from time to time produce them.

Moreover, when there is much matter ready to hand, when space is there, and no thing, no cause delays, things must, we may be sure, be carried on and completed. As it is, if there is so great a store of seeds as the whole life of living things could not number, and if the same force and nature abides which could throw together the seeds of things, each into their place in like manner as they are thrown together here, it must needs be that you confess 2. Matter, space, and nature remaining the same, necessity must produce them.

that there are other worlds in other regions, and diverse races of men and tribes of wild beasts.

3. Nothing
in nature
is unique.

This there is too that in the universe there is nothing single,ⁿ nothing born unique and growing unique and alone, but it is always of some tribe, and there are many things in the same race. First of all turn your mind to living creatures; you will find that in this wise is begotten the race of wild beasts that haunts the mountains, in this wise the stock of men, in this wise again the dumb herds of scaly fishes, and all the bodies of flying fowls. Wherefore you must confess in the same way that sky and earth and sun, moon, sea, and all else that exists, are not unique, but rather of number numberless; inasmuch as the deep-fixed boundary-stone of life awaits these as surely, and they are just as much of a body that has birth, as every race which is here on earth, abounding in things after its kind.

Nature is
thus seen
to work
of herself,
free of the
control of
the gods.

And if you learn this surely, and cling to it, nature is seen, free at once, and quit of her proud rulers, doing all things of her own accord alone, without control of gods. For by the holy hearts of the gods, which in their tranquil peace pass placid years, and a life of calm, who can avail to rule the whole sum of the boundless, who to hold in his guiding hand the mighty reins of the deep, who to turn round all firmaments at once, and warm all fruitful lands with heavenly fires, or to be at all times present in all places, so as to make darkness with clouds, and shake the calm tracts of heaven with thunder, and then shoot thunderbolts, and often make havoc of his own temples, or moving away into deserts rage furiously there, plying the bolt, which often passes by the guilty and does to death the innocent and undeserving?

And since the time of the world's birth, and the first birthday of sea and earth, and the rising of the sun, many bodies have been added from without, and seeds added all around, which the great universe in its tossing has brought together; that from them sea and lands might be able to increase, and from them too the mansion of the sky might gain new room and lift its high vault far away from the lands, and the air might rise up. For from all places all bodies are separated by blows each to its own kind, and they pass on to their own tribes; moisture goes to moisture, with earthy substance earth grows, fires forge fires, and sky sky, until nature, parent of all, with perfecting hand has brought all things on to the last end of growing; as it comes to pass, when there is now no whit more which is sent within the veins of life, than what flows out and passes away. Here the growth of all things must stop, here nature by her powers curbs increase. For whatsoever things you see waxing large with joyful increase, and little by little climbing the steps to full-grown years, take more into themselves than they send out from their body, so long as food is passed easily into all their veins, and so long as the things are not so widely spread that they throw off much, and cause waste greater than that on which their growth feeds. For of a surety you must throw up your hands and grant that many bodies flow away and pass from things; but more must needs be added to them, until they have reached the topmost point of increase. Then little by little age breaks their powers and their full-grown strength, and wastes away on the downhill path. For verily the huger a thing is and the wider it is, when once its bulk begins to go, the more bodies now does it scatter abroad and

The world in its period of growth was increased by constant additions from without.

So all bodies grow, so long as they take in more than they give out.

Then comes the period of decay, when they lose more than they can take in.

So it will
be with
the world,

throw off from itself, nor is its food easily dispersed into all its veins, nor is there store enough, whence matter may arise and be supplied to equal the vast ebb which it gives out. With reason then they perish, when all things have been made rare by the ebb, and yield before the blows from without, inasmuch as at last food fails the aged life, nor do bodies from without cease to thump upon it, and wear it away, and to overcome it with hostile blows. Thus then even the walls of the wide world all round will be stormed and fall into decay and crumbling ruin. For it is food which must needs repair all things and renew them, food must support them, and food sustain all things; yet all is vain, since neither the veins can bear to receive what is enough, nor does nature furnish all that is needful. Yea, even now its life is broken, and the worn-out earth scarce creates tiny animals, though once it created all the tribes, and brought to birth huge bodies of wild beasts. For it was no golden rope,ⁿ I trow, which let down the races of living things from heaven above on to the fields, nor did the sea or the waves, that lash the rocks, create them, but the same earth conceived them, which now nourishes them of her substance. Moreover, at first by herself of her own accord she created for mortals the smiling crops and glad vine-plants, herself brought forth sweet fruits and glad pastures; which now scarce wax great, though aided by our toil: we wear out our oxen and the strength of our husbandmen: we exhaust the iron ploughshare, though scarce supplied by the fields so much do they grudge their produce and increase our toil. And now the aged ploughman shaking his head sighs ever and again that the toil of his hands has perished

which even
now shows
signs of
decay.

all for naught, and when he matches the present days against the days of the past, he often praises the fortunes of his father. So too gloomily the planter of the worn-out, wrinkled vine rails at the trend of the times, and wearies heaven, and grumbles to think how the generations of old, rich in piety, easily supported life on a narrow plot, since aforetime the limit of land was far less to each man. Nor does he grasp that all things waste away little by little and pass to the grave¹ foredone by age and the lapse of life.

¹ Read *capulum* with Vossius.

BOOK III

Introduc-
tion :
praise of
Epicurus,
who has
revealed
the
universe
to man.

THOU, who out of deep darkness didst first avail to raise a torch so clear, shedding light upon the true joys of life, 'tis thee I follow, bright star of the Greek race, and in thy deepset prints firmly now I plant my footsteps, not in eager emulation, but rather because for love I long to copy thee; for how could a swallow rival swans, or what might kids with trembling limbs accomplish in a race to compare with the stout strength of a horse? Thou art our father, thou discoverer of truth, thou dost vouchsafe to us a father's precepts, and from thy pages, our hero, even as bees in flowery glades sip every plant, we in like manner browse on all thy sayings of gold, yea, of gold, and always most worthy of life for evermore. For as soon as thy philosophy, springing from thy godlike soul, begins to proclaim aloud the nature of things, the terrors of the mind fly away, the walls of the world part asunder, I see things moving on through all the void. The majesty of the gods is revealed, and their peaceful abodes, which neither the winds shakeⁿ nor clouds soak with showers, nor does the snow congealed with biting frost besmirch them with its white fall, but an ever cloudless sky vaults them over, and smiles with light bounteously spread abroad. Moreover, nature supplies all they need, nor does anything gnaw at their peace of mind at any time. But on the other hand, the quarters

of Acheron are nowhere to be seen, nor yet is earth a barrier to prevent all things being descried, which are carried on underneath through the void below our feet. At these things, as it were, some godlike pleasure and a thrill of awe seizes on me, to think that thus by thy power nature is made so clear and manifest, laid bare to sight on every side.

And since I have shown of what kind are the beginnings of all things, with what diverse shapes they differ, and how of their own accord they fly on, impelled by everlasting motion, and in what manner each several thing can be created out of them ; next after this it seems that the nature of the mind and the soul must now be displayed in my verses, and the old fear of Acheron driven headlong away, which utterly confounds the life of men from the very root, clouding all things with the blackness of death, and suffering no pleasure to be pure and unalloyed. For, although men often declare that disease and a life of disgrace are more to be feared than the lower realm of death, and that they know that the soul's nature is of blood, or else of wind,ⁿ if by chance their whim so wills it, and that so they have no need at all of our philosophy, you may be sure by this that all is idly vaunted to win praise, and not because the truth is itself accepted. These same men, exiled from their country and banished far from the sight of men, stained with some foul crime, beset with every kind of care, live on all the same, and, spite of all, to whatever place they come in their misery, they make sacrifice to the dead, and slaughter black cattle and despatch offerings to the gods of the dead, and in their bitter plight far more keenly turn their hearts to religion. Wherefore it is more fitting to watch a man in doubt and

The nature of the soul.

False professions of philosophy.

A crisis reveals the old fear of death,

which is
the cause
of many
vices and
crimes,

danger, and to learn of what manner he is in adversity ; for then at last a real cry is wrung from the bottom of his heart : the mask is torn off, and the truth remains behind. Moreover, avarice and the blind craving for honours, which constrain wretched men to overleap the boundaries of right, and sometimes as comrades or accomplices in crime to struggle night and day with surpassing toil to rise up to the height of power—these sores in life are fostered in no small degree by the fear of death. For most often scorned disgrace and biting poverty are seen to be far removed from pleasant settled life, and are, as it were, a present dallying before the gates of death ; and while men, spurred by a false fear, desire to flee far from them, and to drive them far away, they amass substance by civil bloodshed and greedily multiply their riches, heaping slaughter on slaughter. | Hardening their heart they revel in a brother's bitter death, and hate and fear their kinsmen's board. In like manner, often through the same fear, they waste with envy that he is powerful, he is regarded, who walks clothed with bright renown ; while they complain that they themselves are wrapped in darkness and the mire. Some of them come to ruin to win statues and a name ; and often through fear of death so deeply does the hatred of life and the sight of the light possess men, that with sorrowing heart they compass their own death, forgetting that it is this fear which is the source of their woes, which assails their honour, which bursts the bonds of friendship, and overturns affection from its lofty throne.¹ For often ere now men have betrayed country and beloved parents,

¹ The reading is uncertain, but may have been *e summa . . . sede.*

seeking to shun the realms of Acheron. For even as children tremble and fear everything in blinding darkness, so we sometimes dread in the light things that are no whit more to be feared than what children shudder at in the dark, and imagine will come to pass. This terror then, this darkness of the mind, must needs be scattered, not by the rays of the sun and the gleaming shafts of day, but by the outer view and the inner law of nature.

First I say that the mind,ⁿ which we often call the understanding, in which is placed the reasoning and guiding power of life, is a part of a man no whit the less than hand and foot and eyes are created parts of the whole living being. <Yet many wise men have thought>¹ that the sensation of the mind is not placed in any part determined, but is a certain vital habit of the body, which the Greeks call a harmony,ⁿ in that it makes us live with sensation, although in no part does an understanding exist; as when often good health is said to belong to the body, and yet it is not itself any part of a healthy man. In this wise they do not set the sensation of the mind in any part determined; and in this they seem to me to wander very far astray. Thus often the body, which is clear to see, is sick, when, all the same we feel pleasure in some other hidden part; and contrariwise it happens that the reverse often comes to be in turn, when one wretched in mind feels pleasure in all his body; in no other wise than if, when a sick man's foot is painful, all the while, may be, his head is in no pain. Moreover, when the limbs are given up to soft sleep, and the heavy body lies slack and senseless, yet there is something else in us, which at that very time is stirred in many ways, and admits

and must
be dispelled
by science.

A. Nature
of (a) the
mind.
The mind
is a part of
the body,

not a
'harmony'.

1. Mind
and body
are in-
dependent
in pleasure
and pain.

2. In sleep
the body is
senseless,
but the
mind
active.

¹ A line is lost, of which this must have been the general sense.

(b) The soul is in the body, not a harmony: 1. it survives, when much of the body is lost, but 2. the loss of particles of heat and air causes death.

The notion of the vital principle as 'a harmony' must be abandoned.

Mind and soul are one nature,

but mind, in the breast, is supreme.

within itself all the motions of joy and baseless cares of heart. Now that you may be able to learn that the soul too is in the limbs, and that it is not by a harmony that the body is wont to feel, first of all it comes to pass that when a great part of the body is removed yet often the life lingers on in our limbs; and then again, when a few bodies of heat are scattered abroad and some air has been driven out through the mouth, that same life of a sudden abandons the veins and leaves the bones; so that you may be able to know from this that not all kinds of bodies have an equal part to play, nor do all equally support existence, but that rather those, which are the seeds of wind and burning heat, are the cause that life lingers in the limbs. There is then heat and a life-giving wind in the very body, which abandons our dying frame. Wherefore, since the nature of mind and soul has been revealed as a part of man, give up the name of harmony, which was handed down to musicians from high Helicon: or else they themselves have dragged it forth from some other source, and brought it over to this thing, which then was without a name of its own. Whatever it is, let them keep it: do you listen to the rest of my discourse.

Now I say that mind and soul are held in union one with the other, and form of themselves a single nature, but that the head, as it were, and lord in the whole body is the reason, which we call mind or understanding, and it is firmly seated in the middle region of the breast. For here it is that fear and terror throb, around these parts are soothing joys; here then is the understanding and the mind. The rest of the soul, spread abroad throughout the body, obeys and is moved at the will and inclina-

tion of the understanding. The mind alone by itself has understanding for itself and rejoices for itself, when no single thing stirs either soul or body. And just as, when head or eye hurts within us at the attack of pain, we are not tortured at the same time in all our body; so the mind sometimes feels pain by itself or waxes strong with joy, when all the rest of the soul through the limbs and frame is not roused by any fresh feeling. Nevertheless, when the understanding is stirred by some stronger fear, we see that the whole soul feels with it throughout the limbs, and then sweat and pallor break out over all the body, and the tongue is crippled and the voice is choked, the eyes grow misty, the ears ring, the limbs give way beneath us, and indeed we often see men fall down through the terror in their mind; so that any one may easily learn from this that the soul is linked in union with the mind; for when it is smitten by the force of the mind, straightway it strikes the body and pushes it on.

It has pain
and joy
by itself,

but
excessive
feeling is
shared by
the soul
and so com-
municated
to the
body.

et. n. 1

This same reasoning shows that the nature of mind and soul is bodily. For when it is seen to push on the limbs, to pluck the body from sleep, to change the countenance, and to guide and turn the whole man—none of which things we see can come to pass without touch, nor touch in its turn without body—must we not allow that mind and soul are formed of bodily nature? Moreover, you see that our mind suffers along with the body, and shares its feelings together in the body. If the shuddering shock of a weapon, driven within and laying bare bones and sinews, does not reach the life, yet faintness follows, and a pleasant swooning to the ground, and a turmoil of mind which comes to pass on the ground,

Mind and
soul are
corporeal.
For mind
acts on
body by
touch,

and is
affected by
the body's
wounds.

and from time to time, as it were, a hesitating will to rise. Therefore it must needs be that the nature of the mind is bodily, since it is distressed by the blow of bodily weapons.

Mind and
soul are
formed of
very minute
particles :

i. because
they are
so mobile ;

Now of what kind of body this mind is, and of what parts it is formed, I will go on to give account to you in my discourse. First of all I say that it is very fine in texture, and is made and formed of very tiny particles. That this is so, if you give attention, you may be able to learn from this. Nothing is seen to come to pass so swiftly as what the mind pictures to itself coming to pass and starts to do itself. Therefore the mind bestirs itself more quickly than any of the things whose nature is manifest for all to see. But because it is so very nimble, it is bound to be formed of exceeding round and exceeding tiny seeds, so that its particles may be able to move when smitten by a little impulse. For so water moves and oscillates at the slightest impulse, seeing it is formed of little particles, quick to roll. But, on the other hand, the nature of honey is more stable, its fluid more sluggish, and its movement more hesitating ; for the whole mass of its matter clings more together, because, we may be sure, it is not formed of bodies so smooth, nor so fine and round. For a light trembling breath can constrain a high heap of poppy-seed to scatter from top to bottom before your eyes : but, on the other hand, a pile of stones or corn-ears it can by no means separate. Therefore, in proportion as bodies are tinier and smoother, so they are gifted with nimbleness. But, on the other hand, all things that are found to be of greater weight or more spiky, the more firm set they are. Now, therefore, since the nature of the mind has been found nimble beyond the rest, it

must needs be formed of bodies exceeding small and smooth and round. And this truth, when known to you, will in many things, good friend, prove useful, and will be reckoned of service. This fact, too, declares the nature of the mind, of how thin a texture it is formed, and in how small a place it might be contained, could it be gathered in a mass; that as soon as the unruffled peace of death has laid hold on a man, and the nature of mind and soul has passed away, you could discern nothing there, that sight or weight can test, stolen from the entire body; death preserves all save the feeling of life, and some warm heat. And so it must needs be that the whole soul is made of very tiny seeds, and is linked on throughout veins, flesh, and sinews; inasmuch as, when it is all already gone from the whole body, yet the outer contour of the limbs is preserved unbroken, nor is a jot of weight wanting. Even so it is, when the flavour of wine has passed away or when the sweet breath of a perfume is scattered to the air, or when its savour is gone from some body; still the thing itself seems not a whit smaller to the eyes on that account, nor does anything seem withdrawn from its weight, because, we may be sure, many tiny seeds go to make flavours and scent in the whole body of things. Wherefore once and again you may know that the nature of the understanding and the soul is formed of exceeding tiny seeds, since when it flees away it carries with it no jot of weight.

2. because their departure at death makes no change in appearance or weight.

Nevertheless we must not think that this nature is simple. For it is a certain thin breath that deserts the dying, mingled with heat, and heat moreover draws air with it; nor indeed is there any heat, that has not air too mixed with it. For because its nature is rare, it

Composition of the soul: wind, heat, air;

the fourth
nature.

The
course of
sensation.

The com-
bination
of the
elements in
the soul.

must needs be that many first-beginnings of air move about in it. Already then we have found the nature of the soul to be triple; and yet all these things are not enough to create sensation, since the mind does not admit that any of these can create the motions that bring sensation (or the thoughts of the mind).¹ It must needs be then that some fourth natureⁿ too be added to these. But it is altogether without name; than it there exists nothing more nimble, nothing more fine, nor made of smaller or smoother particles. It first sends abroad the motions that bring sensation among the limbs: for it is first stirred, being made up of small shapes; then heat receives the motions and the hidden power of wind, and then air; then all things are set moving, the blood receives the shock and all the flesh feels the thrill; last of all it passes to the bones and marrow, be it pleasure or the heat of opposite kind. Yet not for naught can pain pierce thus far within, nor any biting ill pass through, but that all things are so disordered that there is no more place for life, and the parts of the soul scatter abroad through all the pores of the body. But for the most part a limit is set to these motions, as it were, on the surface of the body: and by this means we avail to keep our life.

Now, as I long to give account in what way these parts are mingled one with another, and in what manner bound together so that they can act, against my will the poverty of my country's tongue holds me back; yet, despite that, I will touch the theme, as best I can in brief. For the first-beginnings course to and fro among themselves with the motions of first-beginnings,ⁿ so that no single one can be put apart, nor can its powers be set in play divided

¹ The MSS. are corrupt, but this must have been the sense.

from others by empty space, but they are, as it were, the many forces of a single body. Even as in the flesh of any living creature anywhere there is smell and a certain heat and savour, and yet of all these is made up the bulk of a single body. Thus heat and air and the hidden power of wind mingled create one nature together with that nimble force, which sends among them from itself the beginning of motion, whence the motion that brings sensation first arises throughout the flesh. For right deep within this nature lies hid far below, nor is there anything further beneath than this in our bodies, and it is moreover the very soul of the whole soul. Even as in our limbs and our whole body the force of the mind and the power of the soul is secretly immingled, because it is formed of small and rare bodies. So, you see, this force without a name, made of tiny bodies, lies concealed, and is moreover, as it were, the very soul of the whole soul and holds sway in the whole body. In like manner it must needs be that wind and air and heat act mingled together throughout the limbs, and one is more above or below the rest, yet so that one single thing is seen to be composed of all; lest heat and wind apart, and apart from them the power of air, should put an end to sensation, and by their separation break it up. Moreover the mind possesses that heat, which it dons when it boils with rage, and the fire flashes more keenly from the eyes. Much cold breath too it has, which goes along with fear, and starts a shuddering in the limbs and stirs the whole frame. And it has too that condition of air lulled to rest, which comes to pass when the breast is calm and the face unruffled. But those creatures have more of heat, whose fiery heart and passionate mind easily boils up in

The hidden
fourth
nature.

The other
elements.

Heat causes
anger;

wind fear;

air
calmness.

Illustrations
from
animals

and from
men.

The
power of
philosophy
to overcome
natural
habits.

Union of
soul and
body is
the cause
of life.

anger. Foremost in this class is the fierce force of lions, who often as they groan break their hearts with roaring, and cannot contain in their breast the billows of their wrath. But the cold heart of deer is more full of wind, and more quickly it rouses the chilly breath in its flesh, which makes a shuddering motion start in the limbs. But the nature of oxen draws its life rather from calm air, nor ever is the smoking torch of anger set to it to rouse it overmuch, drenching it with the shadow of murky mist, nor is it pierced and frozen by the chill shafts of fear : it has its place midway between the two, the deer and the raging lions. So is it with the race of men. However much training gives some of them an equal culture, yet it leaves those first traces of the nature of the mind of each. Nor must we think that such maladies can be plucked out by the roots, but that one man will more swiftly fall into bitter anger, another be a little sooner assailed by fear, while a third will take some things more gently than is right. And in many other things it must needs be that the diverse natures of men differ, and the habits that follow thereon ; but I cannot now set forth the secret causes of these, nor discover names for all the shapes of the first atoms, whence arises this variety in things. One thing herein I see that I can affirm, that so small are the traces of these natures left, which reason could not dispel for us, that nothing hinders us from living a life worthy of the gods.

This nature then of the soul ⁿ is protected by the whole body, and is itself the guardian of the body, and the cause of its life ; for the two cling together by common roots, and it is seen that they cannot be torn asunder without destruction. Even as it is not easy to tear out the scent

from lumps of frankincense, but that its nature too passes away. So it is not easy to draw out the nature of mind and soul from the whole body, but that all alike is dissolved. With first-beginnings so closely interlaced from their very birth are they begotten, endowed with a life shared in common, nor, as is clear to see, can the power of body or mind feel apart, either for itself without the force of the other, but by the common motions of the two on this side and on that is sensation kindled and fanned throughout our flesh. Moreover, the body is never begotten by itself, nor grows alone, nor is seen to last on after death. For never, as the moisture of water often gives off the heat, which has been lent to it, and is not for that reason torn asunder itself, but remains unharmed, never, I say, in this way can the abandoned frame bear the separation of the soul, but it utterly perishes torn asunder and rots away. So from the beginning of existence body and soul, in mutual union, learn the motions that give life, yea, even when hidden in the mother's limbs and womb, so that separation cannot come to pass without hurt and ruin; so that you can see, since the cause of their life is linked together, that their natures too must be linked in one.

For the rest, if any one is for proving that the body does not feel, and believes that it is the soul mingled with the whole body that takes up this motion, which we call sensation, he is fighting even against plain and true facts. For who will ever tell us what the feeling of the body is, if it be not what the clear fact itself has shown and taught us? 'But when the soul has passed away the body is utterly deprived of sensation.' Yes, for it loses that which was not its own in life, and many other things besides it loses, when it is driven out of life.

Each is
necessary to
the other,

and cannot
exist
without it.

The body
itself feels
owing to
its com-
bination
with soul.

Example :
the eyes
themselves
see and
are not
'doors to
the soul'.

To say, moreover, that the eyes can see nothing, but that the mind looks out through them as when doors are opened, is hard, seeing that the feeling in the eyes leads us the other way ; for that feeling drags us on and forces us to the very pupils ;¹ yea, for often we cannot see bright things, because our sight is thwarted by the light. But that does not happen with doors ; for the doors, through which we see, do not suffer any pain when they are opened. Moreover, if our eyes are as doors,ⁿ then the mind, it is clear, ought to discern things better if the eyes were taken out and removed, door-posts and all.

Soul and
body atoms
do not
alternate.

Herein you could by no means accept the teaching, which the judgement of the holy man, Democritus,ⁿ sets before us, that the first-beginnings of soul and body alternate, set each next each, first one and then the other, and so weave the web of our limbs. For, as the particles of soul are far smaller than those of which our body and flesh are composed, so too they are less in number, and only here and there are scattered through our frame ; so that you may warrant this : that the first-beginnings of soul preserve distances apart as great as are the smallest bodies which, when cast upon us, can first start the motions of sensation in the body. For sometimes we do not feel the clinging of dust on the body, nor know that chalk has been shaken on us and settled on our limbs, nor do we feel a mist at night, nor the slender threads of the spider that strike against us, when we are caught in its meshes as we move, nor know that his twisted web has fallen on our head, or the feathers of birds or the flying down from plants, which from its exceeding lightness,

Soul atoms
are set at
intervals.

Proof from
things
which we
do not feel
when they
touch the
body.

¹ i. e. forces us to conclude that it is they which see.

for the most part falls not lightly ; nor do we feel the passage of every kind of crawling creature nor each single footstep, which gnats and other insects plant upon our body. Indeed, so many things must first be stirred in us, before the seeds of soul mingled with our bodies throughout our frame feel that the first-beginnings have been shaken, and before they can by jostling in these spaces set between, rush together, unite and leap back in turn.

Now the mind is more the keeper of the fastnesses of life, more the monarch of life than the power of the soul. For without the mind and understanding no part of the soul can hold out in the frame for a tiny moment of time, but follows in its train without demur, and scatters into air, and deserts the chill frame in the frost of death. Yet one, whose mind and understanding have abode firm, abides in life. However much the trunk is mangled with the limbs hewn all around, though the soul be rent from him all around and wrested from his limbs, he lives and draws in the breath of heaven to give him life. Robbed, if not of all, yet of a great part of his soul, still he lingers on and clings to life. Even as, when the eye is mangled all around, if the pupil has abode unharmed, then the living power of sight stands firm, if only you do not destroy the whole ball of the eye, and cut all round the pupil, and leave it by itself : for that will not be done without the destruction of the eyes too. But if that tiny part in the middle of the eye is eaten away, at once light is gone, and darkness follows on, however much the bright ball is in other places unharmed. In such a compact are soul and mind ever bound together.

The mind is more essential for life than the soul.

Illustration from the pupil of the eye.

Come now, that you may be able to learn that the

B. The
soul is
mortal.

Proofs.

1. It is
mobile and
made of
minute
atoms :

therefore
it cannot
be held
together in
air when
it has left
the body.

2. It is
born,

minds and the light soulsⁿ of living things have birth and death, I will hasten to set forth verses long sought out and found with glad effort, worthy to guide your life. Be it yoursⁿ to link both of these in a single name, and when, to choose a case, I continue to speak of the soul, proving that it is mortal, suppose that I speak of mind as well, inasmuch as they are at one each with the other and compose a single thing. First of all, since I have shown that it is finely made of tiny bodies and of first-beginnings far smaller than the liquid moisture of water or cloud or smoke—for it far surpasses them in speed of motion, and is more prone to move when smitten by some slender cause ; for indeed it is moved by images of smoke and cloud :ⁿ even as when slumbering in sleep we see altars breathing steam on high, and sending up their smoke ; for beyond all doubt these are idols that are borne to us :—now therefore, since, when vessels are shattered, you behold the water flowing away on every side, and the liquid parting this way and that, and since cloud and smoke part asunder into air, you must believe that the soul too is scattered and passes away far more swiftly, and is dissolved more quickly into its first-bodies, when once it is withdrawn from a man's limbs, and has departed. For indeed, since the body, which was, as it were, the vessel of the soul, cannot hold it together, when by some chance it is shattered and made rare, since the blood is withdrawn from the veins, how could you believe that the soul could be held together by any air, which is more rare than our body <and can contain it less>?¹

Moreover, we feel that the understanding is begotten along with the body, and grows together with it, and

¹ The text is uncertain, but this was probably the meaning.

along with it comes to old age. For as children totter with feeble and tender body, so a weak judgement of mind goes with it. Then when their years are ripe and their strength hardened, greater is their sense and increased their force of mind. Afterward, when now the body is shattered by the stern strength of time, and the frame has sunk with its force dulled, then the reason is maimed, the tongue raves, the mind stumbles, all things give way and fail at once. And so it is natural that all the nature of the mind should also be dissolved, even as is smoke, into the high breezes of the air; inasmuch as we see that it is born with the body, grows with it, and, as I have shown, at the same time becomes weary and worn with age.

Then follows this that we see that, just as the body itself suffers wasting diseases and poignant pain, so the mind too has its biting cares and grief and fear; wherefore it is natural that it should also share in death. Nay more, during the diseases of the body the mind often wanders astray; for it loses its reason and speaks raving words, and sometimes in a heavy lethargy is carried off into a deep unending sleep, when eyes and head fall nodding, in which it hears not voices, nor can know the faces of those who stand round, summoning it back to life, bedewing face and cheeks with their tears. Therefore you must needs admit that the mind too is dissolved, inasmuch as the contagion of disease pierces into it. For both pain and disease are alike fashioners of death, as we have been taught ere now by many a man's decease. Again, when the stinging strength of wine has entered into a man, and its heat has spread abroad throughout his veins, why is it that there follows a heaviness in the limbs, his legs are entangled as he staggers, his tongue is sluggish,

grows, and
ages with
the body:

therefore
it is
dissolved
with it.

3. The
mind, like
the body,
has pains.

4. The
diseases of
the body
affect the
mind.

5. Intoxi-
cation
affects body
and mind
alike.

6. Still
more does
epilepsy,
which tears
and rends
the soul.

and his mind heavy, his eyes swim, shouting, sobbing, quarrelling grows apace, and then all the other signs of this sort that go along with them; why does this come to pass, except that the mastering might of the wine is wont to confound the soul even within the body? But whenever things can be so confounded and entangled, they testify that, if a cause a whit stronger shall have made its way within, they must needs perish, robbed of any further life. Nay more, some man, often before our very eyes, seized suddenly by violent disease, falls, as though by a lightning-stroke, and foams at the mouth; he groans and shivers throughout his frame, he loses his wits, his muscles grow taut, he writhes, he breathes in gasps, and tossing to and fro wearies his limbs. Because, you may be sure, his soul rent asunder by the violence of disease throughout his frame,¹ is confounded, and gathers foam, as on the salt sea the waters boil beneath the stern strength of the winds. Further, the groaning is wrung from him, because his limbs are racked with pain, and more than all because the particles of voice are driven out, and are carried crowding forth from his mouth, along the way they are wont, where is their paved path. Loss of wits comes to pass, because the force of mind and soul is confounded, and, as I have shown, is torn apart and tossed to and fro, rent asunder by that same poison. Thereafter, when by now the cause of malady has ebbed, and the biting humours of the distempered body return to their hiding-places, then, as it were staggering, he first rises, and little by little returns to all his senses, and regains his soul. When mind and soul then even within the body are tossed by such great maladies, and in wretched plight

¹ The text is uncertain, but the sense probably this.

are rent asunder and distressed, why do you believe that without the body in the open air they can continue life amid the warring winds? And since we perceive that the mind is cured, just like the sick body, and we see that it can be changed by medicine, this too forewarns us that the mind has a mortal life. For whosoever attempts and essays to alter the mind, or seeks to change any other nature, must indeed add parts to it or transfer them from their order, or take away some small whit at least from the whole. But what is immortal does not permit its parts to be transposed, nor that any whit should be added or depart from it. For whenever a thing changes and passes out of its own limits, straightway this is the death of that which was before. And so whether the mind is sick, it gives signs of its mortality, as I have proved, or whether it is changed by medicine. So surely is true fact seen to run counter to false reasoning, and to shut off retreat from him who flees, and with double-edged refutation to prove the falsehood.

Again, we often behold a man pass away little by little and limb by limb lose the sensation of life; first of all the toes and nails on his feet grow livid, then the feet and legs die, thereafter through the rest of his frame, step by step, pass the traces of chill death. Since this nature of the soul is severed nor does it come forth all intact at one moment, it must be counted mortal. But if by chance you think that it could of its own power draw itself inwards through the frame, and contract its parts into one place, and so withdraw sensation from all the limbs, yet nevertheless that place, to which so great abundance of soul is gathered together, must needs be

7. Mind, like body, can be cured by medicine.

8. In cases of mortification, the soul perishes bit by bit with the body.

It cannot contract into one place,

seen possessed of greater sensation ; but since such place is nowhere found, you may be sure, as we said before, it is rent in pieces and scattered abroad, and so perishes. Nay more, if it were our wish to grant what is false, and allow that the soul could be massed together in the body of those, who as they die leave the light of day part by part, still you must needs confess that the soul is mortal, nor does it matter whether it passes away scattered through the air, or is drawn into one out of all its various parts and grows sottish, since sense more and more in every part fails the whole man, and in every part less and less of life remains.

or if it
does, still
it perishes.

9. The
mind, like
any other
organ of
sense,
cannot exist
without
the body.

And since the mind is one part of man,ⁿ which abides rooted in a place determined, just as are ears and eyes and all the other organs of sense which guide the helm of life ; and, just as hand and eye or nostrils, sundered apart from us, cannot feel nor be, but in fact are in a short time melted in corruption, so the mind cannot exist by itself without the body and the very man, who seems to be, as it were, the vessel of the mind, or aught else you like to picture more closely bound to it, inasmuch as the body clings to it with binding ties.

10. Soul
and body
live by
their
mutual
union.

Again, the living powers of body and mind prevail by union, one with the other, and so enjoy life ; for neither without body can the nature of mind by itself alone produce the motions of life, nor yet bereft of soul can body last on and feel sensation. We must know that just as the eye by itself, if torn out by the roots, cannot discern anything apart from the whole body, so, it is clear, soul and mind by themselves have no power. Doubtless because in close mingling throughout veins and flesh, throughout sinews and bones, their first-beginnings are held close

by all the body, nor can they freely leap asunder with great spaces between; and so shut in they make those sense-giving motions, which outside the body cast out into the breezes of air after death they cannot make, because they are not in the same way held together. For indeed air will be body, yea a living thing, if the soul can hold itself together, and confine itself to those motions, which before it made in the sinews and right within the body. Wherefore, again and again, when the whole protection of the body is undone and the breath of life is driven without, you must needs admit that the sensations of the mind and the soul are dissolved, since the cause of life in soul and body is closely linked.

In the air the soul could not be held together or produce the vital motions.

Again, since the body cannot endure the severing of the soul, but that it decays with a foul stench, why do you doubt that the force of the soul has gathered together from deep down within, and has trickled out, scattering abroad like smoke, and that the body has changed and fallen crumbling in such great ruin, because its foundations have been utterly moved from their seat, as the soul trickles forth through the limbs, and through all the winding ways, which are in the body, and all the pores? So that in many ways you may learn that the nature of the soul issued through the frame sundered in parts, and that even within the body it was rent in pieces in itself, before it slipped forth and swam out into the breezes of air. Nay more, while it moves still within the limits of life, yet often from some cause the soul seems to be shaken and to move, and to wish to be released from the whole body; the face seems to grow flaccid, as at the hour of death, and all the limbs to fall limp on the bloodless trunk. Even so it is, when, as men

11. The gradual decay of the body testifies to the breaking up of the soul before departure.

12. A great shock, not resulting in death, shows the same disturbance of the soul.

say, the heart has had a shock, or the heart has failed ;ⁿ when all is alarm, and one and all struggle to clutch at the last link to life. For then the mind is shaken through and through, and all the power of the soul, and both fall in ruin with the body too ; so that a cause a whit stronger might bring dissolution. Why do you doubt after all this but that the soul, if driven outside the body, frail as it is, without in the open air, robbed of its shelter, would not only be unable to last on through all time, but could not hold together even for a moment ? For it is clear that no one, as he dies, feels his soul going forth whole from all his body, nor coming up first to the throat and the gullet up above, but rather failing in its place in a quarter determined ; just as he knows that the other senses are dissolved each in their own place. But if our mind were immortal, it would not at its death so much lament that it was dissolved, but rather that it went forth and left its slough, as does a snake.

For no
dying man
feels his
soul depart
all at once.

13. The
mind has
its fixed
place, like
any other
perishable
thing.

Again, why is the understanding and judgement of the mind never begotten in head or feet or hands, but is fixed for all men in one abode in a quarter determined, except that places determined are assigned to each thing for its birth, and in which each several thing can abide when it is created,¹ that so it may have its manifold parts arranged that never can the order of its limbs be seen reversed ? So surely does one thing follow on another, nor is flame wont to be born of flowing streams, nor cold to be conceived in fire.

Moreover, if the nature of the soul is immortal and

¹ There may be a verse lost here, or else the construction is slightly careless.

can feel when sundered from our body, we must, I trow, suppose it endowed with five senses. Nor in any other way can we picture to ourselvesⁿ the souls wandering in the lower world of Acheron. And so painters and the former generations of writers have brought before us souls thus endowed with senses. Yet neither eyes nor nose nor even hand can exist for the soul apart from body, nor again tongue apart or ears; the souls cannot therefore feel by themselves or even exist.

14. An immortal soul must have senses of its own :

but they cannot exist apart from body.

And since we feel that the sensation of life is present in the whole body, and we see that the whole is a living thing, if some force suddenly hew it in the middle with swift blow, so that it severs each half apart, beyond all doubt the force of the soul too will be cleft in twain, torn asunder and riven together with the body. But what is cleft and separates into any parts, disclaims, assuredly, that its nature is everlasting. They tell how often scythe-bearing chariots, glowing in the mellay of slaughter, so suddenly lop off limbs, that the part which falls lopped off from the frame is seen to shiver on the ground, while in spite of all the mind and spirit of the man cannot feel the pain, through the suddenness of the stroke, and at the same time, because his mind is swallowed up in the fervour of the fight; with the body that is left him he makes for the fight and the slaughter, and often knows not that his left arm with its shield is gone, carried away by the wheels among the horses and the ravening scythes; and another sees not that his right arm has dropped, while he climbs up and presses onward. Then another struggles to rise when his leg is lost, while at his side on the ground his dying foot twitches its toes. And the head lopped off from the warm living trunk keeps on the

15. When the body is cut, bits of soul survive in the severed parts, so that it cannot be immortal. Examples : limbs hewn off in battle ;

a snake
chopped
into bits ;

ground the look of life and the wide-open eyes, until it has yielded up all the last vestiges of soul. Nay more, if you should choose to chop into many parts with an axe the body¹ of a snake with quivering tongue, angry tail, and long body, you will then perceive all the hewn parts severally writhing under the fresh blow, and scattering the ground with gore, and the fore part making open-mouthed for its own hinder part, in order that, smitten by the burning pain of the wound, it may quench it with its bite. Shall we say then that there is a whole soul in all those little parts? But by that reasoning it will follow that one living creature had many souls in its body. And so that soul which was one together with the body has been severed ; wherefore both body and soul must be thought mortal, since each alike is cleft into many parts.

in each case
the soul is
divided.

16. If the
soul is
eternal, we
ought to
remember
a previous
existence.

Moreover, if the nature of the soul is immortal, and it enters into the body at our birth, why can we not remember also the part of our life already gone, why do we not preserve traces of things done before? For if the power of the mind is so much changed that all remembrance of things past is lost to it, that state is not, I trow, a far step from death ; wherefore you must needs admit that the soul, which was before, has passed away, and that that which now is, has now been created.

17. If
the soul
entered the
body from
without, it
could not
be so closely
connected
with it.

Moreover, if when our bodyⁿ is already formed the living power of the mind is wont to be put in just when we are born, and when we are crossing the threshold into life, it would not then be natural that it should be seen to grow with the body, yea, together with the limbs in the very blood, but 'tis natural that it should live all alone by itself as in a den, yet so that the whole body

¹ Reading *truncum* for *utrumque*, but the text is uncertain.

nevertheless is rich in sensation. Wherefore, again and again, we must not think that souls are without a birth, or released from the law of death. For neither can we think that they could be so closely linked to our bodies if they were grafted in them from without—but that all this is so, plain fact on the other hand declares: for the soul is so interlaced through veins, flesh, sinews, and bones that the teeth, too, have their share in sensation; as toothache shows and the twinge of cold water, and the biting on a sharp stone if it be hid in a piece of bread—nor, when they are so interwoven, can they, it is clear, issue forth entire, and unravel themselves intact from all the sinews and bones and joints. But if by chance you think that the soul is wont to be grafted in us from without, and then permeate through our limbs, all the more will it perish as it fuses with the body. For that which permeates dissolves, and so passes away. For even as food parcelled out among all the pores of the body, when it is sent about into all the limbs and members, perishes and furnishes a new nature out of itself, so soul and mind, however whole they may pass into the fresh-made body, still are dissolved as they permeate, while through all the pores there are sent abroad into the limbs the particles, whereof this nature of the mind is formed, which now holds sway in our body, born from that which then perished, parcelled out among the limbs. Wherefore it is seen that the nature of the soul is neither without a birthday nor exempt from death.

Moreover, are seeds of soul left or not in the lifeless body? For if they are left and are still there, it will follow that it cannot rightly be held immortal, since it

18. If it enters and is then distributed, it must perish in the operation.

19. If soul atoms are left in the body, the

soul must
be broken
up: if not,
how ac-
count for
the genera-
tion of
worms in
a corpse?
Their souls
cannot
come from
without,

or (a)
they could
not fashion
bodies for
themselves

nor (b)
enter bodies
already
formed.

20. Races
of animals
can only
keep their
character-
istics be-
cause their
soul is

has left the body maimed by the loss of some parts. But if it has been removed and fled from the limbs while still entire, so that it has left no part of itself in the body, how is it that corpses, when the flesh is now putrid, teem with worms, and how does so great a store of living creatures, boneless and bloodless, swarm over the heaving frame? But if by chance you believe that the souls are grafted in the worms from without, and can pass severally into their bodies, and do not consider why many thousands of souls should gather together, whence one only has departed, yet there is this that seems worth asking and putting to the test, whether after all those souls go hunting for all the seeds of the little worms, and themselves build up a home to live in, or whether they are, as it were, grafted in bodies already quite formed. But there is no ready reason why they should make the bodies themselves, why they should be at such pains. For indeed, when they are without a body, they do not flit about harassed by disease and cold and hunger. For the body is more prone to suffer by these maladies, and 'tis through contact with the body that the mind suffers many ills. But still grant that it be ever so profitable for them to fashion a body wherein to enter; yet there seems to be no way whereby they could. Souls then do not fashion for themselves bodies and frames. Nor yet can it be that they are grafted in bodies already made; for neither will they be able to be closely interwoven, nor will contact be made by a sharing of sensation.

Again, why does fiery passionⁿ go along with the grim brood of lions and cunning with foxes; why is the habit of flight handed on to deer from their sires, so that their father's fear spurs their limbs? And indeed all other habits of this sort, why are they always implanted in the

limbs and temper from the first moment of life, if it be not because a power of mind determined by its own seed and breed grows along with the body of each animal? But if the soul were immortal and were wont to change its bodies, then living creatures would have characters intermingled; the dog of Hyrcanian seed would often flee the onset of the horned hart, and the hawk would fly fearful through the breezes of air at the coming of the dove; men would be witless, and wise the fierce tribes of wild beasts. For it is argued on false reasoning, when men say that an immortal soul is altered, when it changes its body: for what is changed, is dissolved, and so passes away. For the parts are transferred and shift from their order; wherefore they must be able to be dissolved too throughout the limbs, so that at last they may all pass away together with the body. But if they say that the souls of men always pass into human bodies, still I will ask why a soul can become foolish after being wise, why no child has reason, why the mare's foal is not as well trained as the bold strength of a horse. We may be sure they will be driven to say that in a weak body the mind too is weak. But if that indeed comes to pass, you must needs admit that the soul is mortal, since it changes so much throughout the frame, and loses its former life and sense. Or in what manner will the force of mind be able along with each several body to wax strong and attain the coveted bloom of life, unless it be partner too with the body at its earliest birth? Or why does it desireⁿ to issue forth abroad from the aged limbs? does it fear to remain shut up in a decaying body, lest its home, worn out with the long spell of years, fall on it? But an immortal thing knows no dangers.

determined
by and
grows with
their body.

21. If
immortal
souls
entered
their bodies,
animals
would be
of miscel-
laneous
characters.
For an
immortal
soul could
not change
in passing
from one
body to
another.

22. Even if
human
souls only
pass into
men, they
change
from old
to young.

23. The
soul cannot
grow with
the body,
unless born
with it.

24. An
immortal
soul would
not wish
to leave
the body
in old age.

25. Think of the immortal souls wrangling for their mortal body!

Again, that the souls should be present at the wedlock of Venus and the birth of wild beasts, seems to be but laughable; that immortal souls should stand waiting for mortal limbs in numbers numberless, and should wrangle one with another in hot haste, which first before the others may find an entrance; unless by chance the souls have a compact sealed, that whichever arrives first on its wings, shall first have entrance, so that they strive not forcibly at all with one another.

26. Soul and mind, like all other things, have their appointed place, apart from which they cannot exist.

Again, a tree cannot exist in the sky,ⁿ nor clouds in the deep waters, nor can fishes live in the fields, nor blood be present in wood, nor sap in stones. It is determined and ordained where each thing can grow and have its place. So the nature of the mind cannot come to birth alone without body, nor exist far apart from sinews and blood. But if this could be, far sooner might the force of mind itself exist in head or shoulders, or right down in the heels, and be wont to be born in any part you will, but at least remain in the same man or the same vessel. But since even within our body it is determined and seen to be ordained where soul and mind can dwell apart and grow, all the more must we deny that it could continue or be begotten outside the whole body. Wherefore, when the body has perished, you must needs confess that the soul too has passed away, rent asunder in the whole body. Nay, indeed, to link the mortal with the everlasting, and to think that they can feel together and act one upon the other, is but foolishness. For what can be pictured more at variance, more estranged within itself and inharmonious, than that what is mortal should be linked in union with the immortal and everlasting to brave raging storms? Moreover, if ever things abide for everlasting,ⁿ it must

27. The union of mortal and immortal is absurd.

needs be either that, because they are of solid body, they beat back assaults, nor suffer anything to come within them which might unloose the close-locked parts within, such as are the bodies of matter whose nature we have declared before; or that they are able to continue throughout all time, because they are exempt from blows, as is the void, which abides untouched, nor suffers a whit from assault; or else because there is no supply of room all around, into which, as it were, things might part asunder and be broken up—even as the sum of sums is eternal—nor is there any room without into which they may scatter, nor are there bodies which might fall upon them and break them up with stout blow. But if by chance the soul is rather to be held immortal for this reason, because it is fortified and protected from things fatal to life, or because things harmful to its life come not at all, or because such as come in some way depart defeated before we can feel what harm they do us (clear facts show us that this is not so).¹ For besides that it falls sick along with the diseases of the body, there comes to it that which often torments it about things that are to be, and makes it ill at ease with fear, and wears it out with care; and when its evil deeds are past and gone, yet sin brings remorse. There is too the peculiar frenzy of the mind and forgetfulness of the past, yes, and it is plunged into the dark waters of lethargy.

28. The soul does not fulfil any of the conditions of immortality.

Death, then, is naught to us,ⁿ nor does it concern us a whit, inasmuch as the nature of the mind is but a mortal possession. And even as in the time gone by we felt no ill, when the Poeni came from all sides to the shock of battle, when all the world, shaken by the hurrying turmoil

C. Death is nothing to us. We shall not be conscious after death

¹ A line is lost, of which this was probably the sense.

any more
than we
were before
birth.

Even if the
soul could
feel alone,
it would
not concern
us.

If time
should
reunite the
same atoms
that now
form us,
still it
would not
affect us.

Grief
and pain
necessitate
a per-
cipient :
but death
prevents
our feeling.

of war, shuddered and reeled beneath the high coasts of heaven, in doubt to which people's sway must fall all human power by land and sea ; so, when we shall be no more, when there shall have come the parting of body and soul, by whose union we are made one, you may know that nothing at all will be able to happen to us, who then will be no more, or stir our feeling ; no, not if earth shall be mingled with sea, and sea with sky. And even if the nature of mind and the power of soul has feeling, after it has been rent asunder from our body, yet it is naught to us, who are made one by the mating and marriage of body and soul. Nor, if time should gather together our substance after our decease and bring it back again as it is now placed, if once more the light of life should be vouchsafed to us, yet, even were that done, it would not concern us at all, when once the remembrance of our former selves were snapped in twain. And even now we care not at all for the selves that we once were, not at all are we touched by any torturing pain for them. For when you look back over all the lapse of immeasurable time that now is gone, and think how manifold are the motions of matter, you could easily believe this too, that these same seeds, whereof we now are made, have often been placed in the same order as they are now ; and yet we cannot recall that in our mind's memory ; for in between lies a break in life, and all the motions have wandered everywhere far astray from sense. For, if by chance there is to be grief and pain for a man, he must needs himself too exist at that time, that ill may befall him. Since death forestalls this, and prevents the being of him, on whom these misfortunes might crowd, we may know that we have naught to fear in death, and that he who is no

more cannot be wretched, and that it were no whit different if he had never at any time been born, when once immortal death hath stolen away mortal life.

And so, when you see a man chafing at his lot, that after death he will either rot away with his body laid in earth, or be destroyed by flames, or the jaws of wild beasts, you may be sure that his words do not ring true, and that deep in his heart lies some secret pang, however much he deny himself that he believes that he will have any feeling in death. For he does not, I trow, grantⁿ what he professes, nor the grounds of his profession, nor does he remove and cast himself root and branch out of life, but all unwitting supposes something of himself to live on. For when in life each man pictures to himself that it will come to pass that birds and wild beasts will mangle his body in death, he pities himself; for neither does he separate himself from the corpse, nor withdraw himself enough from the outcast body, but thinks that it is he, and, as he stands watching, taints it with his own feeling. Hence he chafes that he was born mortal, and sees not that in real death there will be no second self, to live and mourn to himself his own loss, or to stand there and be pained that he lies mangled or burning. For if it is an evil in death to be mauled by the jaws and teeth of wild beasts, I cannot see how it is not sharp pain to be laid upon hot flames and cremated, or to be placed in honey and stifled, and to grow stiff with cold,ⁿ lying on the surface on the top of an icy rock, or to be crushed and ground by a weight of earth above.

A professed believer in the mortality of the soul is often insincere.

He imagines a self surviving to grieve at the fate of the body.

Yet one treatment of it will hurt him no more than another.

'Now no more shall thy glad home welcome thee, nor thy good wife and sweet children run up to snatch the first kisses, and touch thy heart with a silent thrill of

The dead has no more desire for the joys of life.

joy. No more shalt thou have power to prosper in thy ways, or to be a sure defence to thine own. Pitiful thou art,' men say, 'and pitifully has one malignant day taken from thee all the many prizes of life.' Yet to this they add not: 'nor does there abide with thee any longer any yearning for these things.' But if they saw this clearly in mind, and followed it out in their words, they would free themselves from great anguish and fear of mind. 'Thou, indeed, even as thou art now fallen asleep in death, shalt so be for all time to come, released from every pain and sorrow. But 'tis we who have wept with tears unquenchable for thee, as thou wert turned to ashes hard by us on the awesome place of burning, and that unending grief no day shall take from our hearts.' But of him who speaks thus we should ask, what there is so exceeding bitter, if it comes at the last to sleep and rest, that any one should waste away in never-ending lamentation.

and the living should not grieve at his entering into rest.

Men say: 'Let us drink, for to-morrow we die': but in death they will have no thirst.

In sleep we have no desire for life, much less in death.

This too men often do, when they are lying at the board, and hold their cups in their hands, and shade their faces with garlands: they say from the heart, 'Brief is this enjoyment for us puny men: soon it will be past, nor ever thereafter will it be ours to call it back.' As though in death this were to be foremost among their ills, that thirst would burn the poor wretches and parch them with its drought, or that there would abide with them a yearning for any other thing. For never does any man long for himself and life, when mind and body alike rest in slumber. For all we care sleep may then be never-ending, nor does any yearning for ourselves then beset us. And yet at that time those first-beginnings stray not at all far through our frame away from the motions that bring sense, when a man springs up from

leep and gathers himself together. Much less then should we think that death is to us, if there can be less than what we see to be nothing; for at our dying there follows a greater turmoil and scattering abroad of matter, nor does any one wake and rise again, whom the chill breach of life has once overtaken.

Again, suppose that the nature of things should of a sudden lift up her voice, and thus in these words herself rebuke some one of us: 'Why is death so great a thing to thee, mortal, that thou dost give way overmuch to sickly lamentation? why groan and weep at death? For if the life that is past and gone has been pleasant to thee, nor have all its blessings, as though heaped in a vessel full of holes,ⁿ run through and perished unenjoyed, why lost thou not retire like a guest sated with the banquet of life, and with calm mind embrace, thou fool, a rest that knows no care? But if all thou hast reaped hath been wasted and lost, and life is a stumbling-block, why seek to add more, all to be lost again foolishly and pass away unenjoyed; why not rather make an end of life and trouble? For there is naught more, which I can devise or discover to please thee: all things are ever as they were. If thy body is not yet wasted with years, nor thy thumbs worn and decayed, yet all things remain as they were, even if thou shouldst live on to overpass all generations, nay rather, if thou shouldst never die.' What answer can we make, but that nature brings a just charge against us, and sets out in her pleading a true plaint? But if now some older man, smitten in years, should make lament, and pitifully bewail his decease more than just, would she not rightly raise her voice and chide him in sharp tones? 'Away with tears henceforth, thou

Nature may justly rebuke us for lamenting our death.

Especially when an old man grieves to die.

He should
be glad to
make room
for future
generations.

rogue, set a bridle on thy laments. Thou hast enjoyed all the prizes of life and now dost waste away. But because thou yearnest ever for what is not with thee, and despisest the gifts at hand, uncompleted and unenjoyed thy life has slipped from thee, and, ere thou didst think it, death is standing by thy head, before thou hast the heart to depart filled and sated with good things. Yet now give up all these things so ill-fitted for thy years, and with calm mind, come, yield them to thy sons: ¹ for so thou must.' She would be right, I trow, in her plea, right in her charge and chiding. For the old ever gives place thrust out by new things, and one thing must be restored at the expense of others: nor is any one sent down to the pit and to black Tartarus. There must needs be substance that the generations to come may grow; yet all of them too will follow thee, when they have had their fill of life; yea, just as thyself, these generations have passed away before, and will pass away again. So one thing shall never cease to rise up out of another, and life is granted to none for freehold, to all on lease.ⁿ Look back again to see how the past ages of everlasting time, before we are born, have been as naught to us. These then nature holds up to us as a mirror of the time that is to come, when we are dead and gone. Is there aught that looks terrible in this, aught that seems gloomy? Is it not a calmer rest than any sleep?

The future,
after our
death, will
be no more
to us than
the past
before our
birth.

The
mythical
tortures of
the lower

Yea, we may be sure, all those things, of which stories tell us in the depths of Acheron, are in our life. Neither does wretched Tantalus fear the great rock that hangs

¹ Eernays' suggestion *gnatis* seems the best of many proposals.

over him in the air, as the tale tells, numbed with idle terror ; but rather 'tis in life that the vain fear of the gods threatens mortals ; they fear the fall of the blow which chance may deal to each. Nor do birds make their way into Tityos, as he lies in Acheron, nor can they verily in all the length of time find food to grope for deep in his huge breast. However vast the mass of his outstretched limbs, though he cover not only nine acres with his sprawling limbs, but the whole circle of earth, yet he will not be able to endure everlasting pain, nor for ever to supply food from his own body. But this is our Tityos, whom as he lies smitten with love the birds mangle, yea, aching anguish devours him, or care cuts him deep through some other passion. The Sisyphus in our life too is clear to see, he who open-mouthed seeks from the people the rods and cruel axes, and evermore comes back conquered and dispirited. For to seek for a power, which is but in name, and is never truly given, and for that to endure for ever grinding toil, this is to thrust uphill with great effort a stone, which after all rolls back from the topmost peak, and headlong makes for the levels of the plain beneath. Then to feed for ever the ungrateful nature of the mind, to fill it full with good things, yet never satisfy it, as the seasons of the year do for us, when they come round again, and bring their fruits and their diverse delights, though we are never filled full with the joys of life, this, I trow, is the story of the maidens in the flower of youth, who pile the water into the vessel full of holes, which yet can in no way be filled full. Cerberus and the furies, moreover, and the lack of light, Tartarus, belching forth awful vapours from his jaws,

world are allegories of the miseries of this life. Tantalus is the man oppressed by the terrors of religion ; Tityos the careworn lover ;

Sisyphus the unsuccessful public man ;

the Danaids the discontented.

Hell is the
fear of
punishment
in this life.

which are not anywhere, nor verily can be. But it is fear of punishment for misdeeds in life—fear notable as the deeds are notable—and the atonement for crime, the dungeon and the terrible hurling down from the rock, scourgings, executioners, the rack, pitch, the metal plate, torches; for although they are not with us, yet the conscious mind, fearing for its misdeeds, sets goads to itself, and sears itself with lashings, nor does it see meanwhile what end there can be to its ills, or what limit at last to punishment, yea, and it fears that these same things may grow worse after death. Here after all on earth the life of fools becomes a hell.

Think of
those who
have died
before you,
the kings,

and heroes,

and poets,

and philo-
sophers.

This too you might say to yourself from time to time :
' Even Ancus the goodⁿ closed his eyes on the light of day, he who was a thousand times thy better, thou knave. And since him many other kings and rulers of empires have fallen, who held sway over mighty nations. Even he himself, who onceⁿ paved a way over the great sea, and made a path for his legions to pass across the deep, and taught them on foot to pass over the salt pools, and made naught of the roarings of ocean, prancing upon it with his horses, yet lost the light of day, and breathed out his soul from his dying body. The son of the Scipios, thunderbolt of war, terror of Carthage, gave his bones to earth, even as though he had been the meanest house-slave. ✓ Yes, and the inventors of sciences and delightful arts, yes and the comrades of the sisters of Helicon : among whom Homer, who sat alone, holding his sceptre, has fallen into the same sleep as the rest. Again, after a ripe old age warned Democritus that the mindful motions of his memory were waning, of his own will he met death

ⁿ Some lines are lost here.

and offered her up his head. Epicurus himself died, when he had run his course in the light of life, Epicurus, who surpassed the race of men in understanding and quenched the light of all, even as the sun rising in the sky quenches the stars. Wilt thou then hesitate and chafe to meet thy doom? thou, whose life is wellnigh dead while thou still livest and lookest on the light, who dost waste in sleep the greater part of thy years, and snore when wide awake, nor ever cease to see dream-visions, who hast a mind harassed with empty fear, nor canst discover often what is amiss with thee, when like a sot thou art beset, poor wretch, with countless cares on every side, and dost wander drifting on the shifting currents of thy mind.'

You must not hesitate to die, whose life is a waking sleep.

If only men, even as they clearly feel a weight in their mind, which wears them out with its heaviness, could learn too from what causes that comes to be, and whence so great a mass, as it were, of ill lies upon their breast, they would not pass their lives, as now for the most part we see them; knowing not each one of them what he wants, and longing ever for change of place, as though he could thus lay aside the burden. The man who is tired of staying at home, often goes out abroad from his great mansion, and of a sudden returns again, for indeed abroad he feels no better. He races to his country home, furiously driving his ponies, as though he were hurrying to bring help to a burning house; he yawns at once, when he has set foot on the threshold of the villa, or sinks into a heavy sleep and seeks forgetfulness, or even in hot haste makes for town, eager to be back. In this way each man struggles to escape himself: yet, despite his will he clings to the self, which, we may be sure, in fact

If men knew the cause of their cares, they would not lead restless lives, as they do now,

struggling to escape from self.

but would
study
nature, to
learn their
condition
after death.

he cannot shun, and hates himself, because in his sickness he knows not the cause of his malady ; but if he saw it clearly, every man would leave all else, and study first to learn the nature of things, since it is his state for all eternity, and not for a single hour, that is in question, the state in which mortals must expect all their being, that is to come after their death.

Our craving
for life is
fruitless.

Again, what evil craving for life is this which constrains us with such force to live so restlessly in doubt and danger ? Verily, a sure end of life is ordained for mortals, nor can we avoid death, but we must meet it. Moreover, we move ever, we spend our time amid the same things, nor by length of life is any new pleasure hammered out. But so long as we have not what we crave, it seems to surpass all else ; afterward, when that is ours, we crave something else, and the same thirst for life besets us ever, open-mouthed. It is uncertain too what fortune time to come may carry to us, or what chance may bring us, or what issue is at hand. Nor in truth by prolonging life do we take away a jot from the time of death, nor can we subtract anything whereby we may be perchance less long dead. Therefore you may live on to close as many generations as you will : yet no whit the less that everlasting death will await you, nor will he for a less long time be no more, who has made an end of life with to-day's light, than he who perished many months or years ago.

A longer
life could
give us no
new
pleasure,

nor could it
diminish
the period
of death.

BOOK IV

I TRAVERSE the distant hauntsⁿ of the Pierides, never trodden before by the foot of man. 'Tis my joy to approach those untasted springs and drink my fill, 'tis my joy to pluck new flowers and gather a glorious coronal for my head from spots whence before the muses have never wreathed the forehead of any man. First because I teach about great things, and hasten to free the mind from the close bondage of religion, then because on a dark theme I trace verses so full of light, touching all with the muses' charm. For that too is seen to be not without good reason; for even as healers, when they essay to give loathsome wormwood to children, first touch the rim all round the cup with the sweet golden moisture of honey, so that the unwitting age of children may be beguiled as far as the lips, and meanwhile may drink the bitter draught of wormwood, and though charmed may not be harmed, but rather by such means may be restored and come to health; so now, since this philosophy full often seems too bitter to those who have not tasted it, and the multitude shrinks back away from it, I have desired to set forth to you my reasoning in the sweet-tongued song of the muses, and as though to touch it with the pleasant honey of poetry, if perchance I might avail by such means to keep your mind set upon my verses, while you take in the whole nature of things, and are conscious of your profit.

But since I have taught of what manner are the

Intro-
duction :
Lucretius's
mission.

A. The
Idols.

The images
which are
the cause
of vision.

The
existence of
such images
is proved
by parallels
in the
visible
world.

1. Things
throw off
films,
either loose,
like smoke,
&c., or
more com-

beginnings of all things, and how, differing in their diverse forms, of their own accord they fly on, spurred by everlasting motion; and in what way each several thing can be created from them; and since I have taught what was the nature of the mind, and whereof composed it grew in due order with the body, and in what way rent asunder it passed back into its first-beginnings: now I will begin to tell you what exceeding nearly concerns this theme, that there are what we call idolsⁿ of things; which, like films stripped from the outermost body of things, fly forward and backward through the air; and they too when they meet us in waking hours affright our minds, yea, and in sleep too, when we often gaze on wondrous shapes, and the idols of those who have lost the light of day, which in awful wise have often roused us, as we lay languid, from our sleep; lest by chance we should think that souls escape from Acheron, or that shades fly abroad among the living, or that something of us can be left after death, when body alike and the nature of mind have perished and parted asunder into their several first-beginnings.

I say then that likenesses of things and their shapes are given off by things from the outermost body of things, which may be called, as it were, films or even rind, because the image bears an appearance and form like to that, whatever it be, from whose body it appears to be shed, ere it wanders abroad. That we may learn from this, however dull be our wits. First of all, since among things clear to see many things give off bodies, in part scattered loosely abroad, even as wood gives off smoke and fires heat, and in part more closely knit and packed together, as when now and then the grasshoppers lay

aside their smooth coats in summer, and when calves at their birth give off a caul from their outermost body, and likewise when the slippery serpent rubs off its vesture on the thorns; for often we see the brambles laden with these wind-blown spoils from snakes. And since these things come to pass, a thin image from things too must needs be given off from the outermost body of things. For why these films should fall and part from things any more than films that are thin, none can breathe a word to prove; above all, since on the surface of thingsⁿ there are many tiny bodies, which could be cast off in the same order wherein they stood, and could preserve the outline of their shape, yea, and be cast the more quickly, inasmuch as they can be less entangled, in that they are few, and placed in the forefront. For verily we see many things cast off and give out bodies in abundance, not only from deep beneath, as we said before, but often too from the surface, such as their own colour. And commonly is this done by awnings, yellow and red and steely-blue, when stretched over great theatres they flap and flutter, spread everywhere on masts and beams. For there they tinge the assembly in the tiers beneath, and all the bravery of the stage and the gay-clad company of the elders,¹ and constrain them to flutter in their colours. And the more closely are the hoardings of the theatre shut in all around, the more does all the scene within laugh, bathed in brightness, as the light of day is straitened. Since then the canvas gives out this hue from its outermost body, each several thing also must needs give out thin likenesses, since in either case they are throwing off from the surface. There are then sure traces of forms, which fly about every-

part like
the slough
of snakes,
&c.

So images
can be
thrown off,
because
there are
unimpeded
atoms on
the surface
ready to
part.

2. Colour
is thrown
off from
the surface
of things,
as from the
awnings of
a theatre.

¹ Translating Munro's suggestion *patrum coetumque decorum*.

Nor is colour hindered like the other effluences which come from deep beneath.

3. Mirrors, &c., return a constant succession of images of things.

Fineness of texture of the images.

1. Think of the fineness of the atoms of which they are composed. (a) They are much smaller than the smallest part of the smallest

where, endowed with slender bulk, nor can they be seen apart one by one. Moreover, all smell, smoke, heat, and other like things stream forth from things, scattering loosely, because while they arise and come forth from deep within, they are torn in their winding course, nor are there straight outlets to their paths, whereby they may hasten to issue all in one mass. But, on the other hand, when the thin film of surface-colour is cast off, there is nothing which can avail to rend it, since it is ready at hand, and placed in the forefront. Lastly, whenever idols appear to us in mirrors, in water, and in every shining surface, it must needs be, seeing that they are endowed with an appearance like the things, that they are made of the images of things given off. There are then thin shapes of things and likenesses, which, although no one can see them one by one, yet thrown back with constant and ceaseless repulse, give back a picture from the surface of the mirrors, and it is seen that they cannot by any other means be so preserved that shapes so exceeding like each several thing may be given back.

Come now and learn of how thin a nature this image is formed. And to begin with, since the first-beginnings are so far beneath the ken of our senses, and so much smaller than the things which our eyes first begin to be unable to descry, yet now that I may assure you of this too, learn in a few words how fine in texture are the beginnings of all things. First of all there are living things sometimes so small that a third part of them could by no means be seen. Of what kind must we think any one of their entrails to be? What of the round ball of their heart or eye? what of their members? what of their limbs? how small are they? still more, what of the

several first-beginnings whereof their soul and the nature of their mind must needs be formed? do you not see how fine and how tiny they are? Moreover, whatever things breathe out a pungent savour from their body, panacea, sickly wormwood, and strongly-smelling abrotanum, and bitter centaury; if by chance <you press> any one of these lightly between two¹ <fingers, the scent will for long cling to your fingers, though never will you see anything at all: so that you may know how fine is the nature of the first-beginnings, whereof the scent is formed . . .> . . . and not rather learn that many idols of things wander abroad in many ways with no powers, unable to be perceived?

living thing
we can see.

(b) Things
can leave
a strong
scent on
you when
you touch
them, and
yet you
can see
nothing.

[2.]

But that you may not by chance think that after all only those idols of things wander abroad, which come off from things, there are those too which are begotten of their own accord, and are formed of themselves in this sky which is called air; which moulded in many ways are borne along on high, and being fluid cease not to change their appearance, and to turn it into the outline of forms of every kind; even as from time to time we see clouds lightly gathering together in the deep sky, and staining the calm face of the firmament, caressing the air with their motion. For often the faces of giants are seen to fly along and to trail a shadow far and wide, and sometimes mighty mountains and rocks torn from the mountains are seen to go on ahead and to pass before the sun; and then a huge beast seems to draw on and lead forward the storm clouds.

There are
other idols,
too, which
form in the
sky, ever-
changing,
like the
masses
of clouds.

Come now, in what swift and easy ways those idols are begotten, and flow unceasingly from things and fall off

These
images are

¹ We may fill in the sense of the immediately succeeding lines with certainty, but a long passage has been lost, probably of about 50 lines.

very swiftly
formed.

1. The
surface of
things is
ever quick
to stream
away.

2. The
quick
formation
of the
image in
the mirror
gives us an
example.

3. So does
the constant
succession
of light
from the
sun.

4. Clouds
form in
the sky in
a moment;
how much
quicker
the little
images!

and part from them, (I will set forth . . .).¹ For ever the outermost surface is streaming away from things, that so they may cast it off. And when this reaches some things, it passes through them, as above all through glass: but when it reaches rough stones or the substance of wood, there at once it is torn, so that it cannot give back any idol. But when things that are formed bright and dense are set athwart its path, such as above all is the mirror, neither of these things comes to pass. For neither can they pass through, as through glass, nor yet be torn; for the smoothness is careful to ensure their safety. Wherefore it comes to pass that the idols stream back from it to us. And however suddenly, at any time you will, you place each several thing against the mirror, the image comes to view; so that you may know that from the outermost body there flow off unceasingly thin webs and thin shapes of things. Therefore many idols are begotten in a short moment, so that rightly is the creation of these things said to be swift. And just as the sun must needs shoot out many rays of light in a short moment, so that the whole world may unceasingly be filled, so too in like manner from things it must needs be that many idols of things are borne off in an instant of time in many ways in all directions on every side; inasmuch as to whatever side we turn the mirror to meet the surface of things, things in the mirror answer back alike in form and colour. Moreover, even when the weather in the sky has but now been most clear, exceeding suddenly it becomes foully stormy, so that on all sides you might think that all darkness has left Acheron, and filled the great vault of the sky; so terribly, when the noisome night of clouds

¹ At least one line is lost here.

has gathered together, do the shapes of black fear hang over us on high ; yet how small a part of these is an idol, there is no one who could say or give an account of this in words.

Come now, with what swift motion the idols are carried on, and what speed is given them as they swim through the air, so that a short hour is spent on a long course, towards whatever place they each strain on with diverse impulse, I will proclaim in verses of sweet discourse rather than in many ; even as the brief song of a swan is better than the clamour of cranes, which spreads abroad among the clouds of the south high in heaven. First of all very often we may see that light things made of tiny bodies are swift. In this class there is the light of the sun and his heat, because they are made of tiny first-particles, which, as it were, are knocked forward, and do not pause in passing on through the space of air between, smitten by the blow from those that follow. For in hot haste the place of light is taken by light, and as though driven in a team, one flash is goaded by another flash. Wherefore in like manner it must needs be that the idols can course through space unthinkable in an instant of time, first because it is a tiny cause,ⁿ far away behind which drives and carries them forward, and after that, in that they are borne on with so swift a lightness of bulk ; and then because they are given off endowed with texture so rare that they can easily pass into anything you will, and as it were ooze through the intervening air. Moreover, when particles of thingsⁿ are given out abroad from deep within, like the sun's light and heat, these are seen to fall in a moment of time and spread themselves over the whole expanse of heaven, and to fly over sea and earth and flood the sky. What then of those things which are ready at

Swiftness
of motion
of idols.

1. Proof
from
analogy.
Light
bodies of
rare texture
usually
move fast :
e. g. the
light
particles of
the sun.

2. Proof
from
theory.
Bodies
starting
from the
surface of
thingsⁿ move

quicker
than those
rising from
within.

3 Proof
from
experience.
The
immediate
reflection
of the
heavens
shows the
pace of
movement
of the idols.

B. These
idols are
the cause
of sight.

I. Our
other senses
are affected
by similar
effluences.

once in the forefront? When they are cast off and nothing hinders their discharge, do you not see that they must needs move swifter and further, and course through many times the same expanse of space in the same time in which the rays of the sun crowd the sky? This, too, more than all seems to show forth truly in what swift motion the idols of things are borne on, that as soon as a bright surface of water is placed beneath the open sky, when the heaven is starry, in a moment the calm beaming stars of the firmament appear in answer in the water. Do you not then see now in how short an instant of time the image falls from the coasts of heaven to the coasts of earth? Wherefore more and more you must needs confess that bodies are sent off such as strike the eyes and awake our vision. And from certain things scents stream off unceasingly; just as cold streams off from rivers, heat from the sun, spray from the waves of the sea, which gnaws away walls all around the shores. Nor do diverse voices cease to fly abroad through the air. Again, often moisture of a salt savour comes into our mouth, when we walk by the sea, and on the other hand, when we watch wormwood being diluted and mixed, a bitter taste touches it. So surely from all things each several thing is carried off in a stream, and is sent abroad to every quarter on all sides, nor is any delay or respite granted in this flux, since we feel unceasingly, and we are suffered always to descry and smell all things, and to hear them sound.

Moreover, since a shape felt by the hands in the darkness is known to be in some way the same as is seen in the light and the clear brightness, it must needs be that touch and sight are stirred by a like cause. If then we handle a square thing, and it stirs our touch in the darkness, what square thing can fall upon our sight in the light, except its image? Wherefore it is clear that the cause of seeing lies in the images, nor without them can anything be seen.

2. Touch and sight give us the same information: they must be affected by similar causes.

Next those things which I call the idols of things are borne everywhere, and are cast off and meted out to every side. But because we can see them onlyⁿ with our eyes, for that cause it comes to pass that, to whatever side we turn our sight, all things there strike against it with their shape and hue. And how far each thing is away from us, the image causes us to see and provides that we distinguish. For when it is given off,ⁿ straightway it pushes and drives before it all the air that has its place between it and the eyes, and thus it all glides through our eyeballs, and, as it were, brushes through the pupils, and so passes on. Therefore it comes to pass that we see how far away each thing is. And the more air is driven on in front, and the longer the breeze which brushes through our eyes, the further each thing is seen to be removed. But you must know that these things are brought to pass by means exceeding quick, so that we see what it is and at the same time how far it is away. Herein by no means must we deemⁿ there is cause to wonder why the idols which strike the eyes cannot be seen one by one, but the whole things are descried. For when wind too lashes us little by little,

The idols meet our eyes wherever we turn.

They drive before them a current of air, by whose length we can judge the distance of the object.

We do not perceive the separate idols, but the whole object.

So we do not feel individual particles of wind or cold, and though we strike only the surface of a stone, we feel the resistance of the whole. and when piercing cold streams on us, we are not wont to feel each separate particle of that wind and cold, but rather all at once, and then we perceive blows coming to pass on our body, just as if something were lashing us and giving us the feeling of its body without. Moreover, when we strike a stone with our finger, we touch the very outside of the rock and its colour on the surface, yet we do not feel the colour with our touch, but rather we feel the very hardness of the rock deep down beneath.

Peculiarities of the mirror.

1. The image seems to be behind the mirror, because, as with things seen through doors, we receive first a current of air, then the image of the mirror, then another current, and finally the image of the object.

Come now and learn why the image is seen beyond the mirror; for indeed it seems removed far within. It is even as those things which in very truth are seen outside a door, when the door affords an unhindered sight through it, and lets many things out of doors be seen from the house. For that vision too is brought to pass by two twin airs. For first the air on our side of the jambs is seen in such a case, then follow the folding doors themselves on right and left, afterwards the light outside brushes through the eyes, and a second air, and then those things which in very truth are seen without the doors. So when first the image of the mirror has cast itself adrift, while it is coming to our pupils, it pushes and drives before it all the air which has its place between it and our eyes, and so makes us able to perceive all this air before the mirror. But when we have perceived the mirror itself too, straightway the image which is borne from us passes to the mirror, and being cast back returns to our eyes and drives on and rolls in front of it another air, and makes us see this before itself, and therefore seems to be just so much distant from the mirror. Wherefore, again and again, it is not right at all that we should wonder

<that this appearance comes to be both for those things which are really seen out of doors, and also>¹ for those things which send back a vision from the level surface of the mirrors; since in either case it is brought about by the two airs. Next it comes to pass that the part of our limbs which is on the right is seen in mirrors on the left, because when the image comes to the plane of the mirror and strikes against it, it is not turned round unchanged, but is dashed back straight; just as if one were to dash a plaster mask, before it is dry, against a pillar or a beam, and it at once were to preserve its shape turned straight to meet us, and were to mould again its own features dashed back towards us. Thus it will come to pass that what was before the right eye, now in turn is the left, and the left in exchange is now the right. It comes to pass too that the image is handed on from mirror to mirror, so that even five or six idols are wont to be made. For even when things are hidden far back in an inner part of the room, yet, however far distant from the sight along a twisting path, it may be that they will all be brought out thence by winding passages, and, thanks to the several mirrors, be seen to be in the house. So surely does the image reflect from mirror to mirror, and when a left hand is presented, it comes to pass that it is changed to the right, and then once again it is changed about and returns to where it was before. Moreover, all flank-curved mirrors,ⁿ endowed with a curve like to our flanks, send back to us right-handed idols, either because the image is borne across from one part of the mirror to

2. Right hand and left are changed in the mirror, because the image is turned straight back, like a plaster mask dashed against a post.

3. Images may be reflected from mirror to mirror, changing their cheirality each time.

4. Curved horizontal mirrors return images with the right cheirality.

¹ A line has probably been lost, such as *hoc illis fieri, quae transpiciuntur, idemque.*

5. The image in the mirror keeps step with us.

another, and then flies towards us, twice dashed back, or else because the imageⁿ is twisted around, when it has arrived, because the curved shape of the mirror teaches it to turn round towards us. Moreover, you would believe that idols walk step by step and place their feet as we do, and imitate our gait, just because, from whatever part of the mirror you retire, straightway the idols cannot be turned back from it, inasmuch as natureⁿ constrains all things to be carried back, and leap back from things, sent back at equal angles.

Peculiarities of vision.

1. Bright things blind and burn the eyes, because of the seeds they contain.

2. Jaundiced persons infect the images with their own yellow.

3. We can see things in the light out of darkness, because the light clears the eyes;

Bright things moreover the eyes avoid, and shun to look upon. The sun, too, blinds, if you try to raise your eyes to meet him, because his own power is great, and the idols from him are borne through the clear air, sinking heavily into the deep, and strike upon the eyes, disordering their texture. Moreover, any piercing brightness often burns the eyes for the reason that it contains many seeds of fire, which give birth to pain in the eyes, finding their way in. Moreover, whatever the jaundiced look upon becomes sickly-yellow, because many seeds of yellow stream off from their bodies to meet the idols of things, and many also are mixed in their eyes, which by their infection tinge all things with their pallor. Now we see things that are in the light out of the darkness, because, when the black air of the gloom, which is nearer, first enters and seizes on the open eyes, there follows in hot haste a bright air full of light, which, as it were, cleanses the eyes and scatters abroad the dark shadows of the former air. For the latter is many times more nimble, many times finer and more potent. And as soon as it has filled the passages of the eyes with light, and opened up those which before the black air had beleaguered, straight-

beleaguered, straightway follow the idols of the things which are lying in the light, and excite our eyes so that we see. But, on the other hand, we cannot do this in the darkness out of the light, because the air of the gloom, which is denser, comes on afterwards, and fills all the channels and beleaguers the passages of the eyes, so that none of the idols of things can be cast upon them and stir them.

but not in the darkness out of light, because the darkness chokes the eyes.

And when we see from afar off ⁿ the square towers of a town, it comes to pass for this cause that they often look round, because every angle from a distance is seen flattened, or rather it is not seen at all, and the blow from it passes away, nor does its stroke come home to our eyes, because, while the idols are being borne on through much air, the air by its frequent collisions constrains it to become blunted. When for this cause every angle alike has escaped our sense, it comes to pass that the structures of stone are worn away as though turned on the lathe; yet they do not look like things which are really round to a near view, but a little resembling them as though in shadowy shape. Like-
 wise our shadow seems to us to move in the sunshine, and to follow our footsteps and imitate our gait; if indeed you believe that air bereft of light can step forward, following the movements and gait of men. For that which we are wont to name a shadow can be nothing else but air devoid of light. But in very truth it is because in certain spots in due order the ground is bereft of the light of the sun wherever we, as we move on, cut it off, and likewise the part of it which we have left is filled again; for this cause it comes to pass that, what was but now the shadow of our body, seems always to follow unaltered straight along with us. For always new rays of light are pouring out, and the former perish, like wool drawn into a flame.

4. Square towers look round from a distance, because the angles are worn off the images in transit.

5. Our shadow seems to follow us, because, as we move, the light is cut off from successive pieces of the ground.

Therefore readily is the ground robbed of light, and is likewise filled again and washes away its own black shadows.

In all such cases sensation is not false, but the mind draws a wrong inference.

1. Stationary objects seen from a moving ship seem to move.

2. The stars seem to be at rest.

3. Passages between mountains are not seen at a distance.

4. To giddy persons their surroundings seem to spin.

5. The rising sun

And yet we do not grant that in this the eyes are a whit deceived. For it is theirs to see in what several spots there is light and shade : but whether it is the same light or not, whether it is the same shadow which was here, that now passes there, or whether that rather comes to pass which I said a little before, this the reasoning of the mind alone must needs determine, nor can the eyes know the nature of things. Do not then be prone to fasten on the eyes this fault in the mind. The ship, in which we journey,ⁿ is borne along, when it seems to be standing still ; another, which remains at anchor, is thought to be passing by. The hills and plains seem to be flying towards the stern, past which we are driving on our ship with skimming sail. All the stars, fast set in the vault of the firmament, seem to be still, and yet they are all in ceaseless motion, inasmuch as they rise and return again to their distant settings, when they have traversed the heaven with their bright body. And in like manner sun and moon seem to abide in their places, yet actual fact shows that they are borne on. And mountains rising up afar off from the middle of the waters, between which there is a free wide issue for ships, yet seem united to make a single island. When children have ceased turning round themselves, so sure does it come to appear to them that the halls are turning about, and the pillars racing round, that scarcely now can they believe that the whole roof is not threatening to fall in upon them. And again, when nature begins to raise on high the sunbeam ruddy with twinkling fires, and to lift it above the mountains,

those mountains above which the sun seems to you to stand, as he touches them with his own fire, all aglow close at hand, are scarce distant from us two thousand flights of an arrow, nay often scarce five hundred casts of a javelin: but between them and the sun lie the vast levels of ocean, strewn beneath the wide coasts of heaven, and many thousands of lands are set between, which diverse races inhabit, and tribes of wild beasts. And yet a pool of water not deeper than a single finger-breadth, which lies between the stones on the paved street, affords us a view beneath the earth to a depth as vast as the high gaping mouth of heaven stretches above the earth; so that you seem to descry the clouds and the heaven and bodies wise hidden beneath the earth—yet in a magic sky. Again, when our eager horse has stuck fast amid a river, and we look down into the hurrying waters of the stream, the force seems to be carrying on the body of the horse, though he stands still, athwart the current, and to be thrusting it in hot haste up the stream; and wherever we cast our eyes all things seem to be borne on and flowing forward, as we are ourselves. Though a colonnade runs on straight-set lines all the way, and stands resting on equal columns from end to end, yet when its whole length is seen from the top end, little by little it contracts to the pointed head of a narrow cone, joining roof with floor, and all the right hand with the left, until it has brought all together into the point of a cone that passes out of sight. It happens to sailors on the sea that the sun seems to rise from the waves, and again to set in the waves, and hide its light; since verily they behold

seems
close to
mountains
in the east.

6. A tiny
pool of no
depth can
reflect the
whole sky.

7. A horse
standing in
a stream
seems to
be borne
upstream.

8. Per-
spective.

9. Sunrise
at sea.

10. Re-
fraction.

nothing else but water and sky ; so that you must not lightly think that the senses waver at every point. But to those who know not the sea, ships in the harbour seem to press upon the water maimed, and with broken poop. For all the part of the oars which is raised up above the salt sea spray, is straight, and the rudders are straight above ; but all that is sunk beneath the water, seems to be broken back and turned round, yes, and to turn upwards again and twist back so that it almost floats on the

11. Moving
clouds
make the
stars seem
to move.

water's surface. And when winds in the night season carry scattered clouds across the sky, then the shining signs seem to glide athwart the storm-clouds, and to be moving on high in a direction far different from their true

12. A
finger on
the eyeball
makes it
see double.

course. Then if by chance a hand be placed beneath one eye and press it, it comes to pass by a new kind of perception that all things which we look at seem to become double as we look, double the lights of the lamps with their flowery flames, double the furniture throughout the whole house in twin sets, and double the faces of men,

13. Dreams.

double their bodies. Again, when sleep has bound our limbs in sweet slumber, and all the body lies in complete rest, yet then we seem to ourselves to be awake and moving our limbs, and in the blind gloom of night we think to see the sun and the light of day, and, though in some walled room, we seem to pass to new sky, new sea, new streams, and mountains, and on foot to cross over plains, and to hear sounds, when the stern silence of night is set all about us, and to give answer, when we do not speak. Wondrously many other things of this sort we see, all of which would fain spoil our trust in the senses ; all in vain, since the greatest part of these things deceives us on account of the opinions of the mind, which

we add ourselves, so that things not seen by the senses are counted as seen. For nothing is harder than to distinguish things manifest from things uncertain, which the mind straightway adds of itself.

Again, if any one thinksⁿ that nothing is known, he knows not whether that can be known either, since he admits that he knows nothing. Against him then I will refrain from joining issue, who plants himself with his head in the place of his feet. And yet were I to grant that he knows this too, yet I would ask this one question ; since he has never before seen any truth in things, whence does he know what is knowing, and not knowing each in turn, what thing has begotten the concept of the true and the false,ⁿ what thing has proved that the doubtful differs from the certain? You will find that the concept of the true is begotten first from the senses, and that the senses cannot be gainsaid. For something must be found with a greater surety, which can of its own authority refute the false by the true. Next then, what must be held to be of greater surety than sense? Will reason, sprung from false sensation,ⁿ avail to speak against the senses, when it is wholly sprung from the senses? For unless they are true, all reason too becomes false. Or will the ears be able to pass judgement on the eyes, or touch on the ears? or again will the taste in the mouth refute this touch ; will the nostrils disprove it, or the eyes show it false? It is not so, I trow. For each sense has its faculty set apart, each its own power, and so it must needs be that we perceive in one way what is soft or cold or hot, and in another the diverse colours of things, and see all that goes along with colour.ⁿ Likewise, the taste of the mouth has its power apart ; in one way smells

If the sceptic denies that anything can be known, how can he know that? Where does he get his criterion of truth?

If the senses are false, he must find a truer standard.

But (a) reason, resting on sensation, cannot refute the senses ; (b) the senses cannot refute one another ;

nor (c) can the senses convict themselves. Sensation is true. It is better to admit that reason may fail than to impugn the senses, the foundation of all knowledge, and the only guide for life.

arise, in another sounds. And so it must needs be that one sense cannot prove another false. Nor again will they be able to pass judgement on themselves, since equal trust must at all times be placed in them. Therefore, whatever they have perceived on each occasion, is true. And if reason is unable to unravel the cause, why those things which close at hand were square, are seen round from a distance, still it is better through lack of reasoning to be at fault in accounting for the causes of either shape, rather than to let things clear seen slip abroad from your grasp, and to assail the grounds of belief, and to pluck up the whole foundations on which life and existence rest. For not only would all reasoning fall away ; life itself too would collapse straightway, unless you chose to trust the senses, and avoid headlong spots and all other things of this kind which must be shunned, and to make for what is opposite to these.

To deny the veracity of sensation is to build a fabric with faulty instruments.

Know, then, that all this is but an empty store of words, which has been drawn up and arrayed against the senses. Again, just as in a building, if the first ruler is awry, and if the square is wrong and out of the straight lines, if the level sags a whit in any place, it must needs be that the whole structure will be made faulty and crooked, all awry, bulging, leaning forwards or backwards, and out of harmony, so that some parts seem already to long to fall, or do fall, all betrayed by the first wrong measurements ; even so then your reasoning of things must be awry and false, which all springs from false senses.

The other senses.

Now it is left to explain in what manner the other

senses perceive each their own object—a path by no means stony to tread.

First of all, every kind of soundⁿ and voice is heard, when they have found their way into the ears and struck upon the sense with their body. For that voice too and sound are bodily you must grant, since they can strike on the senses. Moreover, the voice often scrapes the throat and shouting makes the windpipe over-rough as it issues forth; since, indeed, the first-beginnings of voices have risen up in greater throng through the narrow passage, and begun to pass forth: and then, in truth, when the passages are crammed, the door too is scraped. There is no doubt then that voices and words are composed of bodily elements, so that they can hurt. And likewise it does not escape you how much body is taken away and drawn off from men's very sinews and strength by speech continued without pause from the glimmer of rising dawn to the shades of dark night, above all if it is poured out with loud shouting. And so the voice must needs be of bodily form, since one who speaks much loses a part from his body. Now roughness of voice comes from roughness in its first-beginnings, and likewise smoothness is begotten of their smoothness. Nor do the first-beginnings pierce the ears with like form, when the trumpet bellows deep with muffled tones, and when the barbarous Bercyntian pipe shrieks¹ with shrill buzzing sound, and when the swans at night from the cold marches of Helicon lift with mournful voice their clear lament.²

I. Hearing is produced when sounds strike the sense. Sound is corporeal: (a) it can strike the sense; (b) shouting makes the throat sore; (c) continued speaking weakens the body.

Roughness or smoothness of sound is due to the form of the component atoms.

These voices then, when we force them forth from deep

¹ Read, with I. Vossius, *et reboat raucum Bercyntia*

² Read, with Bernays, *et gelidis cycni nocte oris*

The voice is formed to words by tongue and lips. At close quarters it keeps its form,

but at greater distance is dislocated and becomes indistinct.

One voice can travel to many ears,

or else it is scattered abroad.

Solid things can beat the voice back. Hence the echo,

within our body, and shoot them abroad straight through our mouth, the pliant tongue, artificer of words, severs apart, and the shaping of the lips in its turn gives them form. Therefore, when it is no long distance from which each single utterance starts and reaches to us, it must needs be that the very words too are clearly heard and distinguished sound by sound. For each utterance preserves its shaping and preserves its form. But if the space set between be over great, passing through much air the words must needs be jostled together, and the utterance disordered, while it flies across the breezes. And so it comes to pass that you can perceive the sound, yet not distinguish what is the meaning of the words: so confounded and entangled does the utterance come to you. Again one single word often awakes the ears of all in an assembly, shot out from the crier's mouth. Therefore one voice flies apart immediately into many voices, since it sunders itself into all the several ears, imprinting on the words a shape and a clear-cut sound. But that part of the voices which falls not straight upon the ears, passes by and perishes scattered in vain through the air. Some beating upon solid spots are cast back, and give back the sound, and at times mock us with the echo of a word. And when you see this clearly, you could give account to yourself and others, in what manner among solitary places rocks give back the counterparts of words each in due order, when we seek our comrades wandering amid the dark hills, and with loud voice summon them scattered here and there. I have seen places give back even six or seven cries, when you sent forth but one: so surely did one hill beat back to another and repeat the words trained to come back again. Such places the dwellers around

fancy to be the haunt of goat-footed satyrs and nymphs, and they say that there are fauns, by whose clamour spreading through the night and sportive revels they declare that the dumb silence is often broken ; and that sounds of strings are awakened, and sweet sad melodies, which the pipe pours forth, stopped by the fingers of players ; and that the race of country folk hears far and wide, when Pan, tossing the piny covering of his half-monstrous head, oftentimes with curling lip runs over the open reeds, so that the pipe ceases not to pour forth woodland music. All other marvels and prodigies of this kind they tell, lest by chance they be thought to live in lonely places, deserted even of the gods. Therefore they boast such wonders in discourse, or else are led on in some other way, even as the whole race of man is over greedy of prattling tales.

which gives rise to country stories of fauns, &c.

For the rest, we need not wonder by what means voices come and arouse the ears through places, though which the eyes cannot see things clear to view. Often too we see a talk carried on through closed doors, because, we may be sure, voice can pass unharmed through winding pores in things, but idols refuse to pass. For they are torn asunder, unless they stream through straight pores, as are those in glass, through which every image can fly. Moreover, a voice is severed in every direction, since voices are begotten one from another, when once one voice has issued forth and sprung apart into many, even as a spark of fire is often wont to scatter itself into its several fires. And so places hidden far from sight are filled with voices ; they are in a ferment all around, alive

We hear where we cannot see,
(a) because voices can pass through any kind of pores, the idols of sight only through straight openings ;
(b) because voices are multiplied in all

directions,
the idols
only move
straight as
they start.

with sound. But all idols press on in the direct line, as they have once been started; wherefore no one can see beyond the wall, but can perceive voices outside. And yet even this voice, while it passes through the walls of the house, is dulled, and enters the ear all confounded, and we seem to hear a sound rather than words.

2. Taste is produced when the savour squeezed from the food enters the pores of the palate.

Smooth elements will produce pleasant taste, rough unpleasant.

Taste is confined to the palate and does not accompany digestion.

Different foods suit different creatures,

Nor do the tongue and palate,ⁿ whereby we perceive taste, need longer account or give more trouble. First of all we perceive taste in our mouth, when we press it out in chewing our food, just as if one by chance begins to squeeze with the hand and dry a sponge full of water. Then what we press out is all spread abroad through the pores of the palate, and through the winding passages of the loose-meshed tongue. Therefore, when the bodies of the oozing savour are smooth, they touch pleasantly, and pleasantly stroke all around the moist sweating vault above the tongue. But, on the other hand, the more each several thing is filled with roughness, the more does it prick the sense and tear it in its onslaught. Next pleasure comes from the savour within the limit of the palate; but when it has passed headlong down through the jaws, there is no pleasure while it is all being spread abroad into the limbs. Nor does it matter a whit with what diet the body is nourished, provided only you can digest what you take, and spread it abroad in the limbs, and keep an even moistness in the stomach.

Now how for different creatures there is different food and poison I will unfold, or for what cause, what to some is noisome and bitter, can yet seem to others most sweet

to eat. And there is herein a difference and disagreement so great that what is food to one, is to others biting poison ; even as there is a certain serpent,¹ which, when touched by a man's spittle, dies and puts an end to itself by gnawing its own body. Moreover, to us hellebore is biting poison, but it makes goats and quails grow fat. That you may be able to learn by what means this comes to be, first of all it is right that you remember what we have said ere now, that the seeds contained in things are mingled in many ways. Besides all living creatures which take food, just as they are unlike to outer view and a diverse outward contour of the limbs encloses them each after their kind, so also are they fashioned of seeds of varying shape. And further, since the seeds are unlike, so must the spaces and passages, which we call the openings, be different in all their limbs, and in the mouth and palate too. Some of these then must needs be smaller, some greater, they must be three-cornered for some creatures, square for others, many again round, and some of many angles in many ways. For according as the arrangement of shapes and the motions demand, so the shapes of the openings must needs differ, and the passages vary according to the texture which shuts them in. Therefore, when what is sweet to some becomes bitter to others, for the man to whom it is sweet, the smoothest bodies must needs enter the pores of the palate caressingly, but, on the other hand, for those to whom the same thing is sour within, we can be sure it is the rough and hooked bodies which penetrate the passages. Now from these facts it is easy to learn of each case : thus when fever has attacked a man, and

and what is sweet to one is bitter to another.

This is caused (a) because many different seeds are mingled in things ; (b) because the formation of the palate and its pores differs in different animals.

For similar causes a

¹ The text is uncertain, but this must be the general sense.

man's taste
may change
when he
is ill.

his bile rises high, or the violence of disease is aroused in some other way, then his whole body is disordered, and then all the positions of the first-beginnings are changed about; it comes to pass that the bodies which before suited his taste, suit it no longer, and others are better fitted, which can win their way in and beget a sour taste. For both kinds are mingled in the savour of honey; as I have often shown you above ere now.

3. Similarly
smell
streams off
things to
the nostrils,

Come now, I will tellⁿ in what manner the impact of smell touches the nostrils. First there must needs be many things whence the varying stream of scents flows and rolls on, and we must think that it is always streaming off and being cast and scattered everywhere abroad; but one smell is better fitted to some living things, another to others, on account of the unlike shapes of the elements. And so through the breezes bees are drawn on however far by the scent of honey, and vultures by corpses. Then the strength of dogs sent on before leads on the hunters whithersoever the cloven hoof of the wild beasts has turned its steps, and the white goose, saviour of the citadel of Romulus's sons, scents far ahead the smell of man. So diverse scents assigned to diverse creatures lead on each to its own food, and constrain them to recoil from noisome poison, and in that way are preserved the races of wild beasts.

and dif-
ferent scents
attract
or repel
different
creatures.

Smell never
travels
as far as
sound,

This very smell then, whenever it stirs the nostrils, may in one case be thrown further than in another. But yet no smell at all is carried as far as sound, as voice, I forbear to say as the bodies which strike the pupil of the eyes and stir the sight. For it strays abroad and comes but slowly, and dies away too soon, its frail nature scattered little by little among the breezes of air. Firstly, because

coming from deep withinⁿ it is not readily set loose from the thing: for that smells stream off and depart from things far beneath the surface is shown because all things seem to smell more when broken, when crushed, when melted in the fire. Again, one may see that it is fashioned of larger first-beginnings than voice, since it does not find a path through stone walls, where voice and sound commonly pass. Wherefore too you will see that it is not so easy to trace in what spot that which smells has its place. For the blow grows cool as it dallies through the air, nor do tidings of things rush hot to the sense. And so dogs often go astray, and have to look for the footprints.

(a) because it starts from deep within things;

(b) because it is made of larger atoms.

Consequently it is less easy to trace to its source.

¹ Yet this does not happen only among smells and in the class of savours, but likewise the forms and colours of things are not all so well fitted to the senses of all, but that certain of them are too pungent to the sight of some creatures. Nay, indeed, ravening lionsⁿ can by no means face and gaze upon the cock, whose wont it is with clapping wings to drive out the night, and with shrill cry to summon dawn; so surely do they at once bethink themselves of flight, because, we may be sure, there are in the body of cocks certain seeds, which, when they are cast into the eyes of lions, stab into the pupils, and cause sharp pain, so that they cannot bear up against them in fierce confidence; and yet these things cannot in any way hurt our eyes, either because they do not pierce them or because, although they do, a free outlet from the eyes is afforded them, so that they cannot by staying there hurt the eyes in any part.

The same thing occurs with sight: certain things hurt the eyes of certain creatures: e. g. lions cannot look at cocks;

because there are certain seeds in cocks which hurt their eyes, but not ours.

¹ This section seems misplaced, and should possibly come before the preceding paragraph.

The cause
of thought.

Idols,
wandering
every-
where,
may unite,

and piercing
through to
the mind,
make us
think of
monstrous
forms.

Come now, let me tell you ⁿ what things stir the mind, and learn in a few words whence come the things which come into the understanding. First of all I say this, that many idols of things wander about in many ways in all directions on every side, fine idols, which easily become linked with one another in the air, when they come across one another's path, like spider's web and gold leaf. For indeed these idols are far finer in their texture than those which fill the eyes and arouse sight, since these pierce through the pores of the body and awake the fine nature of the mind within, and arouse its sensation. And so we see Centaurs and the limbs of Scyllas, and the dog-faces of Cerberus and idols of those who have met death, and whose bones are held in the embrace of earth; since idols of every kind are borne everywhere, some which are created of their own accord even in the air, some which depart in each case from diverse things, and those again which are made and put together from the shapes of these. For in truth the image of the Centaur comes not from a living thing, since there never was the nature of such a living creature, but when by chance the images of man and horse have met, they cling together readily at once, as we have said ere now, because of their subtle nature and fine fabric. All other things of this kind are fashioned in the same way. And when they move nimbly with exceeding lightness, as I have shown ere now, any one such subtle image stirs their mind; for the mind is fine and of itself wondrous nimble.

The mind
sees as the
eyes do:

That these things come to pass as I tell, you may easily learn from this. Inasmuch as the one is like the other, what we see with the mind, and what we see with the

eyes, they must needs be created in like manner. Now, therefore, since I have shown that I see a lion maybe, by means of idols, which severally stir the eyes, we may know that the mind is moved in like manner, in that it sees a lion and all else neither more nor less than the eyes, except that it sees finer idols. And when sleep has relaxed the limbs, the understanding of the mind is for no other cause awake, but that these same idols stir our minds then, as when we are awake, insomuch that we seem surely to behold even one who has quitted life, and is holden by death and the earth. This nature constrains to come to pass just because all the senses of the body are checked and at rest throughout the limbs, nor can they refute the falsehood by true facts. Moreover, the memory lies at rest, and is torpid in slumber, nor does it argue against us that he, whom the understanding believes that it beholds alive, has long ago won to death and doom. For the rest, it is not wonderful that the idols should move and toss their arms and their other limbs in rhythmic time. For it comes to pass that the image in sleep seems to do this; inasmuch as when the first image passes away and then another comes to birth in a different posture, the former seems then to have changed its gesture. And indeed we must suppose that this comes to pass in quick process: so great is the speed, so great the store of things, so great, in any one instant that we can perceive, the abundance of the little parts of images, whereby the supply may be continued.

therefore
the process
is the same.

So too the
visions of
sleep are
caused by
images
visiting the
mind,

and
memory is
not awake
to check
their
veracity.
The move-
ment of
the dream-
visions is
due to the
constant
flux of ever-
different
images.

And in these matters ⁿ many questions are asked, and there are many things we must make clear, if we wish to set forth the truth plainly. First of all it is asked why, whatever the whim may come to each of us to think of,

Problems
of thought
and dreams.
1. How
can we

think at
once of
anything
we want?

2. How in
sleep do we
see moving
images?

Because
at every
instant
there is an
infinite
succession
of images;

and the
mind only
sees sharply
those to
which it
attends.

The same
is really the
case with
waking
sight.

straightway his mind thinks of that very thing. Do the idols keep watch on our will, and does the image rise up before us, as soon as we desire, whether it pleases us to think of sea or land or sky either? Gatherings of men, a procession, banquets, battles, does nature create all things at a word, and make them ready for us? And that when in the same place and spot the mind of others is thinking of things all far different. What, again, when in sleep we behold idols dancing forward in rhythmic measure, and moving their supple limbs, when alternately they shoot out swiftly their supple arms, and repeat to the eyes a gesture made by the feet in harmony? Idols in sooth are steeped in art and wander about trained to be able to tread their dance in the night-time. Or will this be nearer truth? Because within a single time, which we perceive, that is, when a single word is uttered, many times lie unnoted, which reasoning discovers, therefore it comes to pass that in any time however small the several idols are there ready at hand in all the several spots. So great is the speed, so great the store of things. Therefore when the first image passes away and then another comes to birth in a different posture, the former seems then to have changed its gesture. Again, because they are fine, the mind cannot discern them sharply, save those which it strains to see; therefore all that there are besides these pass away, save those for which it has made itself ready. Moreover, the mind makes itself ready, and hopes it will come to pass that it will see what follows upon each several thing; therefore it comes to be. Do you not see the eyes too, when they begin to perceive things which are fine, strain themselves and make themselves ready, and that without that it cannot come to pass that we see things sharply? And yet even in things plain to see you

might notice that, if you do not turn your mind to them, it is just as if the thing were sundered from you all the time, and very far away. How then is it strange, if the mind loses all else, save only the things to which it is itself given up? Then too on small signs we base wide opinions, and involve ourselves in the snare of self-deceit.

It happens too that from time to time an image of different kind rises before us, and what was before a woman, seems now to have become a man before our very eyes, or else one face or age follows after another. But that we should not think this strange, sleep and its forgetfulness secure.

The incoherence of dreams is not noticed in sleep.

Herein you must eagerlyⁿ desire to shun this fault, and with foresighted fear to avoid this error; do not think that the bright light of the eyes was created in order that we may be able to look before us, or that, in order that we may have power to plant long paces, therefore the tops of shanks and thighs, based upon the feet, are able to bend; or again, that the forearms are jointed to the strong upper arms and hands given us to serve us on either side, in order that we might be able to do what was needful for life. All other ideas of this sort, which men proclaim, by distorted reasoning set effect for cause, since nothing at all was born in the body that we might be able to use it, but what is born creates its own use. Nor did sight exist before the light of the eyes was born, nor pleading in words before the tongue was created, but rather the birth of the tongue came long before discourse, and the ears were created much before sound was heard, and in short all the limbs, I trow, existed before their use came about: they cannot then have grown for the pur-

C. The limbs and senses were not created for the purpose of their use,

but being created evolved their use.

Art may
create
things for
a purpose,

pose of using them. But, on the other side, to join hands in the strife of battle, to mangle limbs and befoul the body with gore; these things were known long before gleaming darts flew abroad, and nature constrained men to avoid a wounding blow, before the left arm, trained by art, held up the defence of a shield. And of a surety to trust the tired body to rest was a habit far older than the soft-spread bed, and the slaking of the thirst was born before cups. These things, then, which are invented to suit the needs of life, might well be thought to have been discovered for the purpose of using them. But all those other things lie apart, which were first born themselves, and thereafter revealed the concept of their usefulness. In this class first of all we see the senses and the limbs; wherefore, again and again, it cannot be that you should believe that they could have been created for the purpose of useful service.

but nature
has no
design.

The desire
for food is
caused by
the waste of
the body's
tissue,
which food
in turn
repairs.

This, likewise, is no cause for wonder, that the nature of the body of every living thing of itself seeks food. For verily I have shownⁿ that many bodies ebb and pass away from things in many ways, but most are bound to pass from living creatures. For because they are sorely tried by motion and many bodies by sweating are squeezed and pass out from deep beneath, many are breathed out through their mouths, when they pant in weariness; by these means then the body grows rare, and all the nature is undermined; and on this follows pain. Therefore food is taken to support the limbs and renew strength when it passes within, and to muzzle the gaping desire for eating through all the limbs and veins. Likewise, moisture spreads into all the spots which demand moisture;

Drink
quenches

and the many gathered bodies of heat, which furnish the fires to our stomach, are scattered by the incoming moisture, and quenched like a flame, that the dry heat may no longer be able to burn our body. Thus then the panting thirst is washed away from our body, thus the hungry yearning is satisfied.

Next, how it comes to pass that we are able to plant our steps forward, when we wish, how it is granted us to move our limbs in diverse ways, and what force is wont to thrust forward this great bulk of our body, I will tell: do you hearken to my words. I say that first of all idols of walking fall upon our mind, and strike the mind, as we have said before. Then comes the will;ⁿ for indeed no one begins to do anything, ere the mind has seen beforehand what it will do, and inasmuch as it sees this beforehand, an image of the thing is formed. And so, when the mind stirs itself so that it wishes to start and step forward, it straightway strikes the force of soul which is spread abroad in the whole body throughout limbs and frame. And that is easy to do, since it is held in union with it. Then the soul goes on and strikes the body, and so little by little the whole mass is thrust forward and set in movement. Moreover, at such times the body too becomes rarefied, and air (as indeed it needs must do, since it is always quick to move), comes through the opened spaces, and pierces through the passages in abundance, and so it is scattered to all the tiny parts of the body. Here then it is brought about by two causes acting severally, that the body, like a ship,¹ is borne on by sails and wind.ⁿ Nor yet herein is this cause for wonder, that such tiny bodies can twist about a body so great, and turn

the excessive dryness and heat in the body.

Causes of our movements.

1. The image of ourselves moving is presented to the mind: then follows an act of will. The mind then stirs the soul-atoms,

and the soul-atoms those of body.

2. Exercise rarefies the body, and its spaces are filled with air, which helps in motion.

There are parallels for

¹ This must be the sense, though the text is uncertain.

the moving of a great mass by tiny causes: e. g. a ship in a wind or a crane.

round the whole mass of us. For in very truth the wind that is finely wrought of a subtle body drives and pushes on a great ship of great bulk, and a single hand steers it, with whatever speed it be moving, and twists a single helm whithersoever it will; and by means of pulleys and tread-wheels a crane can move many things of great weight, and lift them up with light poise.

The cause of sleep.

Now in what ways this sleep floods repose over the limbs, and lets loose the cares of the mind from the breast, I will proclaim in verses of sweet discourse, rather than in many; even as the brief song of the swan is better than the clamour of cranes, which spreads abroad among the clouds of the south high in heaven. Do you lend me a fine ear and an eager mind, lest you should deny that what I say can be, and with a breast that utterly rejects the words of truth part company with me, when you are yourself in error and cannot discern. First of all sleep comes to passⁿ when the strength of the soul is scattered about among the limbs, and in part has been cast out abroad and gone its way, and in part has been pushed back and passed inward deeper within the body. For then indeed the limbs are loosened and droop. For there is no doubt that this sense exists in us, thanks to the soul; and when sleep hinders it from being, then we must suppose that the soul is disturbed and cast out abroad: yet not all of it; for then the body would lie bathed in the eternal chill of death. For indeed, when no part of the soul stayed behind hidden in the limbs, as fire is hidden when choked beneath much ashes, whence could sense on a sudden be kindled again throughout the limbs, as flame can rise again from a secret fire?

It comes when the soul is scattered in the limbs, or driven out, or hidden deep within. For sense is due to the soul; and its cessation shows that the soul has gone: but not utterly, for that would mean death.

But by what means this new state of things is brought about, and whence the soul can be disturbed and the body grow slack, I will unfold : be it your care that I do not scatter my words to the winds. First of all it must needs be that the body on the outer side, since it is touched close at hand by the breezes of air, is thumped and buffeted by its oft-repeated blows, and for this cause it is that wellnigh all things are covered either by a hide, or else by shells, or by a hard skin, or by bark. Further, as creatures breathe, the air at the same time smites on the inner side, when it is drawn in and breathed out again. Wherefore, since the body is buffeted on both sides alike, and since the blows pass on through the tiny pores to the first parts and first particles of our body, little by little there comes to be, as it were, a falling asunder throughout our limbs. For the positions of the first-beginnings of body and mind are disordered. Then it comes to pass that a portion of the soul is cast out abroad, and part retreats and hides within ; part too, torn asunder through the limbs, cannot be united in itself, nor by motion act and react ; for nature bars its meetings and chokes the ways ; and so, when the motions are changed, sense withdraws deep within. And since there is nothing which can, as it were, support the limbs, the body grows feeble, and all the limbs are slackened ; arms and eyelids droop, and the hams, even as you lie down, often give way, and relax their strength. Again, sleep follows after food, because food brings about just what air does, while it is being spread into all the veins, and the slumber which you take when full or weary, is much heavier because then more bodies than ever are disordered, bruised with the great effort. In the same manner the soul comes to

This is brought about because

the body is constantly buffeted by air outside

and inside, as we breathe.

The blows spread and cause disruption ;

and so the soul is driven out or sinks within or is distracted,

and the unsupported body sinks in slackness.

Food acts in just the same way as air.

be in part thrust deeper within ; it is also more abundantly driven out abroad, and is more divided and torn asunder in itself within.

Dreams repeat the actions which we pursue in waking life.

And for the most part to whatever pursuit each man clings and cleaves, or on whatever things we have before spent much time, so that the mind was more strained in the task than is its wont, in our sleep we seem mostly to traffic in the same things ; lawyers think that they plead their cases and confront law with law, generals that they fight and engage in battles, sailors that they pass a life of conflict waged with winds, and we that we pursue our task and seek for the nature of things for ever, and set it forth, when it is found, in writings in our country's tongue. Thus for the most part all other pursuits and arts seem to hold the minds of men in delusion during their sleep. And if ever men have for many days in succession given interest unflagging to the games, we see for the most part, that even when they have ceased to apprehend them with their senses, yet there remain open passages in their minds, whereby the same images of things may enter in. And so for many days the same sights pass before their eyes, so that even wide awake they think they see men dancing and moving their supple limbs, and drink in with their ears the clear-toned chant of the lyre, and its speaking strings, and behold the same assembly and at the same time the diverse glories of the stage all bright before them. So exceeding great is the import of zeal and pleasure, and the tasks wherein not only men are wont to spend their efforts, but even every living animal. In truth you will see strong horses, when their limbs are lain to rest, yet sweat in their sleep, and pant for ever, and strain every nerve as though for victory, or else as

For instance, the games.

This is true even of animals :

horses,

though the barriers were opened (struggle to start).¹ And hunters' dogs often in their soft sleep yet suddenly ^{hunting-} toss their legs, and all at once give tongue, and again and ^{dogs,} again snuff the air with their nostrils, as if they had found and were following the tracks of wild beasts; yea, roused from slumber they often pursue empty images of stags, as though they saw them in eager flight, until they shake off the delusion and return to themselves. But the fawn- ^{house-dogs,} ing brood of pups brought up in the house, in a moment shake their body and lift it from the ground, just as if they beheld unknown forms and faces. And the wilder any breed may be, the more must it needs rage in its sleep. But the diverse tribes of birds fly off, and on ^{birds,} a sudden in the night time trouble the peace of the groves of the gods, if in their gentle sleep they have seen hawks, flying in pursuit, offer fight and battle. More- ^{and so of} over, the minds of men, which with mighty movement ^{men in} perform mighty tasks, often in sleep do and dare just the ^{diverse} same; kings storm towns, are captured, join battle, raise ^{ways.} a loud cry, as though being murdered—all without moving. Many men fight hard, and utter groans through their pain, and, as though they were bitten by the teeth of a panther or savage lion, fill all around them with their loud cries. Many in their sleep discourse of high affairs, and very often have been witness to their own guilt. Many meet death; many, as though they were falling ^{They may} headlong with all their body from high mountains to ^{dream even} the earth, are beside themselves with fear, and, as ^{of their} though bereft of reason, scarcely recover themselves ^{death,} from sleep, quivering with the turmoil of their body.

¹ The end of the line has been ousted by an intrusion from the next: the sense was probably this, as Munro suggests.

or of trivial
needs.

Likewise a man sits down thirsty beside a stream or a pleasant spring, and gulps almost the whole river down his throat. Innocent children often, if bound fast in slumber they think they are lifting their dress at a latrine or a roadside vessel, pour forth the filtered liquid from their whole body, and the Babylonian coverlets of rich beauty are soaked. Later on to those, into the seething waters of whose life the vital seed is passing for the first time, when the ripeness of time has created it in their limbs, there come from without idols from every body, heralding a glorious face or beautiful colouring, which stir and rouse their passion to bursting.

The nature
of love
and desire.

There is stirred in us that seed, whereof we spoke before, when first the age of manhood strengthens our limbs. For one cause moves and rouses one thing, a different cause another; from man only the influence of man stirs human seed. And as soon as it has been aroused, bursting forth it makes its way from out the whole body through the limbs and frame, coming together into fixed places, and straightway rouses at last the natural parts of the body; and there arises the desire to seek that body, by which the mind is smitten with love. For as a rule all men fall towards the wound, and the blood spurts out in that direction, whence we are struck by the blow, and, if it is near at hand, the red stream reaches our foe. Thus, then, he who receives a blow from the darts of Venus, whoso'er it be who wounds him, inclines to that whereby he is smitten; for an unspoken desire foretells the pleasure to come.

It makes
us seek
union with
the object
by which
we are
smitten.

D. Shun
Venus and
her cares
and desires.

This pleasure is Venus for us; from it comes Cupid, our name for love, from it first of all that drop of Venus's sweetness has trickled into our heart and chilly care has

followed after. For if the object of your love is away, yet images of her are at hand, her loved name is present to your ears. But it is best to flee those images,ⁿ and scare away from you what feeds your love, and to turn your mind some other way, and vent your passion on other objects, and not to keep it, set once for all on the love of one, and thereby store up for yourself care and certain pain. For the sore gains strength and festers by feeding, and day by day the madness grows, and the misery becomes heavier, unless you dissipate the first wounds by new blows, and heal them while still fresh, wandering after some wanton, or else can turn the movements of the mind elsewhere.

Nor is he who shuns love bereft of the fruits of Venus, but rather he chooses those joys which bring no pain. For surely the pleasure from these things is more untainted for the heart-whole than for the love-sick; for in the very moment of possession the passion of lovers ebbs and flows with undetermined current, nor are they sure what first to enjoy with eyes or hands. What they have grasped, they closely press and cause pain to the body, and often fasten their teeth in the lips, and dash mouth against mouth in kissing, because their pleasure is not unalloyed, and there are secret stings which spur them to hurt even the very thing, be it what it may, whence arise those germs of madness. But Venus lightly breaks the force of these pains in love, and fond pleasure mingled with them sets a curb upon their teeth. For therein there is hope that from the same body, whence comes the source of their flame, the fire may in turn be quenched. Yet nature protests that all this happens just the other way; and this is the one thing, whereof the more and more we

For the pain only grows with indulgence.

The lover's pleasure involves pain,

and satiety never comes.

have, the more does our heart burn with the cursed desire. For meat and drink are taken within the limbs ; and since they are able to take up their abode in certain parts, thereby the desire for water and bread is easily sated. But from the face and beauteous bloom of man nothing passes into the body to be enjoyed save delicate images ; and often this love-sick hope is scattered to the winds. Just as when in a dream a thirsty man seeks to drink and no liquid is granted him, which could allay the fire in his limbs, but he seeks after images of water, and struggles in vain, and is still thirsty, though he drinks amid the torrent stream, even so in love Venus mocks the lovers with images, nor can the body sate them, though they gaze on it with all their eyes, nor can they with their hands tear off aught from the tender limbs, as they wander aimless over all the body. Even at last when the lovers embrace and taste the flower of their years, eagerly they clasp and kiss, and pressing lip on lip breathe deeply ; yet all for naught, since they cannot tear off aught thence, nor enter in and pass away, merging the whole body in the other's frame ; for at times they seem to strive and struggle to do it. And at length when the gathering desire is sated, then for a while comes a little respite in their furious passion. Then the same madness returns, the old frenzy is back upon them, when they yearn to find out what in truth they desire to attain, nor can they discover what device may conquer their disease ; in such deep doubt they waste beneath their secret wound.

Satisfaction
only begets
new desire.

Love saps
strength

Remember too that they waste their strength and are worn away with effort, remember that their life is passed

beneath another's sway. Meanwhile their substance slips away, and is turned to Babylonian coverlets, their duties grow slack, and their fair name totters and sickens : while on the mistress's feet laugh¹ and lovely Sicyonian slippers ; yes, and huge emeralds with their green flash are set in gold, and the sea-dark dress is for ever being frayed, and roughly used it drinks in sweat. The well-gotten wealth of their fathers becomes hair-ribbons and diadems ; sometimes it is turned to Greek robes and stuffs of Elis and Ceos. With gorgeous napery and viands feasts are set out, and games and countless cups, perfumes, and wreaths and garlands ; all in vain, since from the heart of this fountain of delights wells up some bitter taste to choke them even amid the flowers— either when the conscience-stricken mind feels the bite of remorse that life is being spent in sloth, and is passing to ruin in wantonness, or because she has thrown out some idle word and left its sense in doubt, and it is planted deep in the passionate heart, and becomes alive like a flame, or because he thinks she casts her eyes around too freely, and looks upon some other, or sees in her face some trace of laughter.

and independence, and duty and honour. Patrimony is squandered in lavish present and entertainment,

and all is ruined by some bitter thought of remorse or jealousy.

And these ills are found in love that is true and fully prosperous ; but when love is crossed and hopeless there are ills, which you might detect even with closed eyes, ills without number ; so that it is better to be on the watch beforehand, even as I have taught you, and to beware that you be not entrapped. For to avoid being drawn into the meshes of love, is not so hard a task as when caught amid the toils to issue out and break through the strong bonds of Venus. And yet even when trammelled

Crossed love is still worse.

Avoid love then, before you are caught,

¹ It is impossible to replace with certainty the mutilated word.

or if caught and fettered you might escape the snare, unless you still
do not stand in your own way, and at the first o'erlook all the
shut your eyes to blemishes of mind and body in her, whom you seek and
defects, woo. For for the most part men act blinded by passion,
and assign to women excellencies which are not truly theirs.

And so we see those in many ways deformed and ugly
dearly loved, yea, prospering in high favour. And one
and cover them with endearing glosses. man laughs at another, and urges him to appease Venus,
since he is wallowing in a base passion, yet often, poor
wretch, he cannot see his own ills, far greater than the
rest. A black love is called 'honey-dark', the foul and
filthy 'unadorned', the green-eyed 'Athena's image', the
wiry and wooden 'a gazelle', the squat and dwarfish
'one of the graces', 'all pure delight', the lumpy and
ungainly 'a wonder', and 'full of majesty'. She stammers
and cannot speak, 'she has a lisp'; the dumb is 'modest';
the fiery, spiteful gossip is 'a burning torch'. One be-
comes a 'slender darling', when she can scarce live from
decline; another half dead with cough is 'frail'. Then
the fat and full-bosomed is 'Ceres' self with Bacchus at
breast'; the snub-nosed is 'sister to Silenus, or a Satyr';
the thick-lipped is 'a living kiss'. More of this sort it

Even the fairest is not in- dispensable, and is not really different from others. were tedious for me to try to tell. But yet let her be
fair of face as you will, and from her every limb let the
power of Venus issue forth: yet surely there are others
too: surely we have lived without her before, surely she
does just the same in all things, and we know it, as the
ugly, and of herself, poor wretch, reeks of noisome smells,

A lover, when he finds this out, is often offended. and her maids flee far from her and giggle in secret. But
the tearful lover, denied entry, often smothers the thresh-
hold with flowers and garlands, and anoints the haughty
door-posts with marjoram, and plants his kisses, poor

wretch, upon the doors; yet if, admitted at last, one single breath should meet him as he comes, he would seek some honest pretext to be gone, and the deep-drawn lament long-planned would fall idle, and then and there he would curse his folly, because he sees that he has assigned more to her than it is right to grant to any mortal. Nor is this unknown to our queens of love; nay the more are they at pains to hide all behind the scenes from those whom they wish to keep fettered in love; all for naught, since you can even so by thought bring it all to light and seek the cause of all this laughter, and if she is of a fair mind, and not spiteful, o'erlook faults in your turn, and pardon human weaknesses.

It is better to realize it and make allowance.

Nor does the woman sigh always with feigned love, when clasping her lover she holds him fast, showering her kisses. For often she does it from the heart, and yearning for mutual joys she woos him to reach the goal of love. And in no other way would birds, cattle, wild beasts, the flocks, and mares be able to submit to the males, except because their nature too is afire, and is burning to overflow. Do you not see too how those whom mutual pleasure has bound, are often tortured in their common chains? Wherefore, again and again, as I say, the pleasure is common.

The female feels pleasure as well as the male.

And often when in the mingling of sex the woman by sudden force has mastered the man's might and seized on it with her own, then children are borne like the mother, thanks to the mother's seed, just as the father's seed may make them like the father. But those whom you see with the form of both, mingling side by side the features of both parents, spring alike from the father's body and the mother's blood. It comes to pass too some-

The causes of likeness to either parent,

or to
ancestors,

times that they can be created like their grandparents, and often recall the form of their grandparents' parents, for the reason that many first-beginnings in many ways are often mingled and concealed in the body of their parents, which, starting from the stock of the race, father hands on to father; therefrom Venus unfolds forms with varying chance, and recalls the look, the voice, the hair of ancestors; since indeed these things are none the more created from a seed determined than are our faces and bodies and limbs. Again the female sex may spring from the father's seed, and males come forth formed from the mother's body. For every offspring is fashioned of the two seeds, and whichever of the two that which is created more resembles, of that parent it has more than an equal share; as you can yourself discern, whether it be a male offspring or a female birth.

and its
connexion
with the
child's sex.

Causes of
sterility.

Nor do powers divine deny to any man a fruitful sowing of seed, that he may never be called father by sweet children, but must live out his years in barren wedlock; as men believe for the most part, and sorrowing sprinkle the altars with streams of blood and fire the high places with their gifts, that they may make their wives pregnant with bounteous seed. Yet all in vain they weary the majesty of the gods and their sacred lots. For the couplings in wedlock are seen to be very diverse. And many women have been barren in several wedlocks before, yet at length have found a mate from whom they might conceive children, and grow rich with sweet offspring. And often even for those, for whom wives fruitful ere now in the house had been unable to bear, a well-matched nature has been found, so that they might fortify their old age with children.

Sometimes 'tis by no divine act or through the shafts of Venus that a woman of form less fair is loved. For at times a woman may bring it about by her own doing, by her unselfish ways, and the neat adornment of her body, that she accustoms you easily to live your life with her. Nay more, habit alone can win love ; for that which is struck ever and again by a blow, however light, is yet mastered in long lapse of time, and gives way. Do you not see too how drops of water falling upon rocks in long lapse of time drill through the rocks?

A woman without beauty may win love by character, or dress, or mere habit.

BOOK V

Intro-
duction.
Epicurus,
who dis-
covered our
philosophy,
is a god.

His services
to men are
far greater
than those
of the gods
and heroes
of old :

even of
Hercules.

Who can avail by might of mind to build a poem worthy to match the majesty of truth and these discoveries? Or who has such skill in speech, that he can fashion praises to match his deserts, who has left us such prizes, conceived and sought out by his own mind? There will be no one, I trow, born of mortal body. For if we must speak as befits the majesty of the truth now known to us, then he was a god, yea a god, noble Memmius, who first found out that principle of life, which now is called wisdom, and who by his skill saved our life from high seas and thick darkness, and enclosed it in calm waters and bright light. For set against this the heaven-sent discoveries of others in the days of old. Ceres is fabled to have taught to men the growing of corn, and Liber the liquid of the vine-born juice; and yet life could have gone on without these things, as tales tell us that some races live even now. But a good life could not be without a clean heart; wherefore more rightly is he counted a god by us, thanks to whom now sweet solaces for life soothe the mind, spread even far and wide among great peoples. But if you think that the deeds of Herculesⁿ excel this, you will be carried still further adrift from true reasoning. For what harm to us now were the great gaping jaws of the old Nemean lion and the bristling boar of Arcadia? Or what could the bull of Crete do, or the curse of Lerna, the hydra with its pallisade of poisonous snakes? what the triple-breasted might of threefold Geryon?

〈How could those birds〉 have done us such great hurt, who dwelt in the Stymphalian 〈fen〉,¹ or the horses of Diomedes the Thracian, breathing fire from their nostrils near the coasts of the Bistones and Ismara? Or the guardian of the glowing golden apples of Hesperus's daughters, the dragon, fierce, with fiery glance, with his vast body twined around the tree-trunk, yea, what harm could he have done beside the Atlantic shore and the grim tracts of ocean, where none of us draws near nor barbarian dares to venture? And all other monsters of this sort which were destroyed, had they not been vanquished, what hurt, pray, could they have done alive? Not a jot, I trow: the earth even now teems in such abundance with wild beasts, and is filled with trembling terrors throughout forests and mighty mountains and deep woods; but for the most part we have power to shun those spots. But unless the heart is cleansed, what battles and perils must we then enter into despite our will? What sharp pangs of passion then rend the troubled man, yea and what fears besides? what of pride, filthiness and wantonness? what havoc they work? what of luxury and sloth? He then who has subdued all these and driven them from the mind by speech, not arms, shall this man not rightly be found worthy to rank among the gods? Above all, since 'twas his wont to speak many sayings in good and godlike words about the immortal gods themselves, and in his discourse to reveal the whole nature of things.

For he gave us a clean heart,

and taught us about the gods and nature.

In his footsteps I tread, and while I follow his reasonings and set out in my discourse, by what law all things are created, and how they must needs abide by it, nor

Now that I have shown the laws of nature,

¹ A line is lost, of which the words in brackets give the general sense.

and the
mortality
of the soul,

I must
prove that
the world
is mortal,
and how
it came to
be made.

I must
treat of the
creation of
animals,
of the
growth of
speech, of
the origin
of the fear
of the gods,
and of the
courses
of the
heavenly
bodies.

All these
things come
to pass
without the
interference
of the gods.

can they break through the firm ordinances of their being, even as first of all the nature of the mind has been found to be formed and created above other things with a body that has birth, and to be unable to endure unharmed through the long ages, but it is images that are wont in sleep to deceive the mind, when we seem to behold one whom life has left; for what remains, the train of my reasoning has now brought me to this point, that I must give account how the world is made of mortal body and also came to birth; and in what ways that gathering of matter established earth, sky, sea, stars, sun, and the ball of the moon; then what living creatures sprang from the earth, and which have never been born at any time; and in what manner the race of men began to use ever-varying speech one to another by naming things; and in what ways that fear of the gods found its way into their breasts, which throughout the circle of the world keeps revered shrines, lakes, groves, altars, and images of the gods. Moreover, I will unfold by what power nature, the helmsman, steers the courses of the sun and the wanderings of the moon; lest by chance we should think that they of their own will 'twixt earth and sky fulfil their courses from year to year, with kindly favour to the increase of earth's fruits and living creatures, or should suppose that they roll on by any forethought of the gods. For those who have learnt aright that the gods lead a life free from care, yet if from time to time they wonder by what means all things can be carried on, above all among those things which are descried above our heads in the coasts of heaven, are borne back again into the old beliefs of religion, and adopt stern overlords, whom in their misery they believe have all power, knowing not what

can be and what cannot, yea and in what way each thing has its power limited, and its deep-set boundary-stone.

For the rest, that I may delay you no more with promises, first of all look upon seas, and lands, and sky ; their threefold nature, their three bodies, Memmius, their three forms so diverse, their three textures so vast, one single day shall hurl to ruin ; and the massive form and fabric of the world, held up for many years, shall fall headlong. Nor does it escape me in my mind, how strangely and wonderfully this strikes upon the understanding, the destruction of heaven and earth that is to be, and how hard it is for me to prove it surely in my discourse ; even as it always happens, when you bring to men's ears something unknown before, and yet you cannot place it before the sight of their eyes, nor lay hands upon it ; for by this way the paved path of belief leads straightest into the heart of man and the quarters of his mind. Yet still I will speak out. Maybe that the very fact will give credence to my words, that earthquakes will arise and within a little while you will behold all things shaken in mighty shock. But may fortune at the helm steer this far away from us, and may reasoning rather than the very fact make us believe that all things can fall in with a hideous rending crash.

The world will be destroyed.

This sounds strange, and is hard to prove.

Perhaps events will give sensible proof:

but reasoning must be tried.

Yet before I essay on this point to declare destiny in more holy wise, and with reasoning far more sure than the Pythian priestess, who speaks out from the tripod and laurel of Phoebus, I will unfold many a solace for you in my learned discourse ; lest by chance restrained by religion you should think that earth and sun, and sky, sea, stars, and moon must needs abide for everlasting, because of their divine body, and therefore should suppose it right

It is no sacrilege to deny that the world and the heavenly bodies are divine.

They are not even sentient.

Soul and mind, like all other things, have their appointed place, apart from which they cannot exist.

They cannot be in earth or the heavenly bodies.

The gods have no dwellings in the world :

that after the manner of the giantsⁿ all should pay penalty for their monstrous crime, who by their reasoning shake the walls of the world, and would fain quench the glorious sun in heaven, branding things immortal with mortal names ; yet these are things so far sundered from divine power, and are so unworthy to be reckoned among gods, that they are thought rather to be able to afford us the concept of what is far removed from vital motion and sense. For verily it cannot be that we should suppose that the nature of mind and understanding can be linked with every body : even as a tree cannot exist in the sky, nor clouds in the salt waters, nor can fishes live in the fields, nor blood be present in wood nor sap in stones. It is determined and ordained where each thing can grow and have its place. So the nature of mind cannot come to birth alone without body, nor exist far apart from sinews and blood. But if this could be, far sooner might the force of mind itself exist in head or shoulders, or right down in the heels, and be wont to be born in any part you will, but at least remain in the same man or the same vessel. But since even within our body it is determined and seen to be ordained where soul and mind can dwell apart and grow, all the more must we deny that outside the whole body and the living creature's form, it could last on in the crumbling sods of earth or in the fire of the sun or in water or in the high coasts of heaven. They are not then created endowed with divine feeling, inasmuch as they cannot be quickened with the sense of life.

This, too, it cannot be that you should believe, that there are holy abodes of the gods in any parts of the world. For the fine nature of the gods, far sundered

from our senses, is scarcely seen by the understanding of the mind ; and since it lies far beneath all touch or blow from our hands, it cannot indeed touch anything which can be touched by us. For nothing can touch which may not itself be touched. Therefore even their abodes too must needs be unlike our abodes, fine even as are their bodies ; all which I will hereafter prove to you ⁿ with plenteous argument. Further, to say that for man's sake they were willing to fashion the glorious nature of the world, and for that cause 'tis fitting to praise the work of the gods, which is worthy to be praised, and to believe that it will be everlasting and immortal, and that it is sin ever to stir from its seats by any force what was established for the races of men for all time by the ancient wisdom of the gods, or to assail it with argument, and to overthrow it from top to bottom ; to imagine and to add all else of this sort, Memmius, is but foolishness. For what profit could our thanks bestow on the immortal and blessed ones, that they should essay to do anything for our sakes? Or what new thing could have enticed them so long after, when they were aforetime at rest, to desire to change their former life? For it is clear that he must take joy in new things, to whom the old are painful ; but for him, whom no sorrow has befallen in the time gone by, when he led a life of happiness, for such an one what could have kindled a passion for new things? Or what ill had it been to us never to have been made? Did our life, forsooth, lie wallowing in darkness and grief, until the first creation of things dawned upon us? For whosoever has been born must needs wish to abide in life, so long as enticing pleasure shall hold him. But for him, who has never tasted the love of life, and was never

nor did
they make
the world
for the sake
of man.

Our thanks
could not
benefit
them,

nor could
they have
had a desire
for novelty:

nor would
it have
hurt us if
we had
never been
created.

How,
again, could
the gods
have had a
pattern or
an idea to
work on?

No; the
world was
made by
the chance
arrange-
ment of
atoms.

That the
world is not
divinely
made for
man, may
be proved
by its im-
perfections.
I. Vast
tracts of
the earth
are useless
for man,

in the ranks of the living, what harm is it never to have been made? Further, how was there first implanted in the gods a pattern for the begetting of things, yea, and the concept of man,ⁿ so that they might know and see in their mind what they wished to do, or in what way was the power of the first-beginnings ever learnt, or what they could do when they shifted their order one with the other, if nature did not herself give a model of creation? For so many first-beginnings of things in many ways, driven on by blows from time everlasting until now, and moved by their own weight, have been wont to be borne on, and to unite in every way, and essay everything that they might create, meeting one with another, that it is no wonder if they have fallen also into such arrangements, and have passed into such movements, as those whereby this present sum of things is carried on, ever and again replenished.

But even if I knew notⁿ what are the first-beginnings of things, yet this I would dare to affirm from the very workings of heaven, and to prove from many other things as well, that by no means has the nature of things been fashioned for us by divine grace: so great are the flaws with which it stands beset. First, of all that the huge expanse of heaven covers, half thereof mountains and forests of wild beasts have greedily seized; rocks possess it, and waste pools and the sea, which holds far apart the shores of the lands. Besides, two thirds almost burning heat and the ceaseless fall of frost steal from mortals. Of all the field-land that remains, yet nature would by her force cover it up with thorns, were it not that the force of man resisted her, ever wont for his livelihood to groan over the strong mattock and to furrow the earth with the

deep-pressed plough. But that by turning the fertile and only
 clods with the share, and subduing the soil of the earth his toil can
 we summon them to birth, of their own accord the crops turn them
 could not spring up into the liquid air; and even now to profit.
 sometimes, when won by great toil things grow leafy
 throughout the land, and are all in flower, either the sun
 in heaven burns them with too much heat, or sudden
 rains destroy them and chill frosts, and the blasts
 of the winds harry them with headstrong hurricane.
 Moreover, why does nature foster and increase the awe-
 some tribe of wild beasts to do harm to the race of man 2. He is
 by land and sea? Why do the seasons of the year bring harassed
 maladies? Why does death stalk abroad before her time? by wild
 Then again, the child, like a sailor tossed ashore by the beasts,
 cruel waves, lies naked on the ground, dumb, lacking all disease,
 help for life, when first nature has cast him forth by and death.
 travail from his mother's womb into the coasts of light, 3. The
 and he fills the place with woful wailing, as is but right human
 for one for whom it remains in life to pass through so baby is
 much trouble. But the diverse flocks and herds grow up helpless and
 and the wild beasts, nor have they need of rattles, nor defenceless.
 must there be spoken to any of them the fond and broken
 prattle of the fostering nurse, nor do they seek diverse
 garments to suit the season of heaven, nay, and they have
 no need of weapons or lofty walls, whereby to protect
 their own, since for all of them the earth itself brings
 forth all things bounteously, and nature, the quaint
 artificer of things.

First of all,ⁿ since the body of earth and moisture, and A. The
 the light breath of the winds and burning heat, of which world is
 this sum of things is seen to be made up, are all created mortal
 of a body that has birth and death, of such, too, must we (a) because
 its com-
 ponent

parts are
mortal.

think that the whole nature of the world is fashioned. For verily things whose parts and limbs we see to be of a body that has birth and of mortal shapes, themselves too we perceive always to have death and birth likewise. Wherefore, when we see the mighty members and parts of the world consumed away and brought to birth again, we may know that sky too likewise and earth had some time of first-beginning, and will suffer destruction.

To prove
this of the
separate
elements:
1. Earth is
mortal.
It flies
away in
clouds of
dust,

Herein, lest you should think that I have snatched at this proof for myself, because I have assumed that earth and fire are mortal things, nor have hesitated to say that moisture and breezes perish, and have maintained that they too are born again and increase, first of all, some part of earth, when baked by ceaseless suns, trodden by the force of many feet, gives off a mist and flying clouds of dust, which stormy winds scatter through all the air. Part too of its sods is summoned back to swamp by the rains, and streams graze and gnaw their banks. Moreover, whatever the earth nourishes and increases, is, in its own proportion, restored; and since without doubt the parent of all is seen herself to be the universal tomb of things, therefore you may see that the earth is eaten away, and again increases and grows.

or is de-
stroyed by
moisture.
Earth is the
universal
mother
and the
universal
tomb.

2. Water
is mortal:

For the rest, that sea, streams, and springs are ever filling with new moisture, and that waters are ceaselessly oozing forth, there is no need of words to prove: the great downrush of waters on every side shows this forth.

it is drawn
up from
the sea
by wind
and sun,

But the water which is foremost is ever taken away, and so it comes to pass that there is never overmuch moisture in the sum, partly because the strong winds as they sweep the seas, diminish them, and so does the sun in heaven, as he unravels their fabric with his rays, partly because

it is sent hither and thither under every land. For the brine is strained through, and the substance of the moisture oozes back, and all streams together at the fountain-head of rivers, and thence comes back over the lands with freshened current, where the channel once cleft has brought down the waters in their liquid march.

and passes
beneath the
earth to
reappear
in springs.

Next then I will speak of air, which changes in its whole body in countless ways each single hour. For always, whatever flows off from things, is all carried into the great sea of air; and unless in turn it were to give back bodies to things, and replenish them as they flow away, all things would by now have been dissolved and turned into air. Air then ceases not to be created from things, and to pass back into things, since it is sure that all things are constantly flowing away.

3. Air is
mortal :
it is con-
stantly
being
created by
the efflux
from things,
and renew-
ing them
by its
restoration.

Likewise that bounteous sourceⁿ of liquid light, the sun in heaven, ceaselessly floods the sky with fresh brightness, and at once supplies the place of light with new light. For that which is foremost of its brightness, ever perishes, on whatever spot it falls. That you may learn from this : that as soon as clouds have begun for an instant to pass beneath the sun, and, as it were, to break off the rays of light, straightway all the part of the rays beneath perishes, and the earth is overshadowed, wherever the clouds are carried; so that you may learn that things ever have need of fresh brilliance, and that the foremost shaft of light ever perishes, nor in any other way can things be seen in the sunlight, except that the very fountain-head of light gives supply for ever. Nay more, lights at night, which are on the earth, hanging lamps and oily torches, bright with their flashing fires and thick smoke, in like manner hasten by aid of their heat

4. Fire is
mortal
the sun is
always
sending out
new sup-
plies, and
his rays
perish as
they fall.
Witness
the beams
cut off
by clouds.

So even
lights on
earth have
to keep up
a constant

supply of
flame.

to supply new light ; they are quick to flicker with their fires, yea quick, nor is the light, as it were, broken off, nor does it quit the spot. In such eager haste is its destruction hidden by the quick birth of flame from all the fires. So then we must think that sun, moon, and stars throw out their light from new supplies, rising again and again, and lose ever what is foremost of their flames ; lest you should by chance believe that they are strong with a strength inviolable.

We constantly see examples of the mortality of the strongest things.

Again, do you not behold stones too vanquished by time, high towers falling in ruins, and rocks crumbling away, shrines and images of the gods growing weary and worn, while the sacred presence cannot prolong the boundaries of fate nor struggle against the laws of nature ? Again, do we not see the monuments of men fallen to bits, and inquiring moreover whether you believe that they grow old ? ¹ And stones torn up from high mountains rushing headlong, unable to brook or bear the stern strength of a limited time ? For indeed they would not be suddenly torn up and fall headlong, if from time everlasting they had held out against all the siege of age without breaking.

If the sky is the universal parent, it is mortal : for it is constantly diminished and increased.

Now once again gaze on this sky, which above and all around holds the whole earth in its embrace : if it begets all things out of itself, as some tell,^b and receives them again when they perish, it is made altogether of a body that has birth and death. For whatsoever increases and nourishes other things out of itself, must needs be lessened, and replenished when it receives things back.

(b) There are many

Moreover, if there was no birth and beginning of the earth and sky, and they were always from everlasting,

¹ The line is corrupt, and I have translated Munro's correction : *quaerere pro porro sibi sene senescere credas.*

why beyond the Theban war and the doom of Troy have not other poets sung of other happenings as well? whither have so many deeds of men so often passed away? why are they nowhere enshrined in glory in the everlasting memorials of fame? But indeed, I trow, our whole world is in its youth, and quite new is the nature of the firmament, nor long ago did it receive its first-beginnings. Wherefore even now certain arts are being perfected, even now are growing; much now has been added to ships, but a while ago musicians gave birth to tuneful harmonies. Again, this nature of things, this philosophy, is but lately discovered, and I myself was found the very first of all who could turn it into the speech of my country. But if by chance you think that all these same things were aforetime, but that the generations of men perished in burning heat, or that cities have fallen in some great upheaval of the world, or that from ceaseless rains ravaging rivers have issued over the lands and swallowed up cities, all the more must you be vanquished and confess that there will come to pass a perishing of earth and sky as well. For when things were assailed by such great maladies and dangers, then if a more fatal cause had pressed upon them, far and wide would they have spread their destruction and mighty ruin. Nor in any other way do we see one another to be mortal; except that we fall sick of the same diseases as those whom nature has sundered from life.

proofs that the world is still in its youth.

If you think former civilizations have passed away in some world-calamity, that would prove that the world is mortal.

Moreover, if ever things abide ⁿ for everlasting, it must needs be either that, because they are of solid body, they beat back assaults, nor suffer anything to come within them, which might unloose the close-locked parts within, such as are the bodies of matter, whose nature we have

(c) The world does not fulfil any of the conditions of immortality.

declared before ; or that they are able to continue through all time, because they are exempt from blows, as is the void, which abides untouched nor suffers a whit from assault ; or else because there is no supply of room all around, into which things might part asunder and be broken up—even as the sum of sums is eternal—nor is there any room without into which they may leap apart, nor are there bodies which might fall upon them and break them up with stout blow. But neither, as I have shown, is the nature of the world endowed with solid body, since there is void mingled in things ; nor yet is it as the void, nor indeed are bodies lacking, which might by chance gather together out of infinite space and overwhelm this sum of things with headstrong hurricane, or bear down on it some other form of dangerous destruction ; nor again is there nature of room or space in the deep wanting, into which the walls of the world might be scattered forth ; or else they may be pounded and perish by any other force you will. The gate of death then is not shut on sky or sun or earth or the deep waters of the sea, but it stands open facing them with huge vast gaping maw. Wherefore, again, you must needs confess that these same things have a birth ; for indeed, things that are of mortal body could not from limitless time up till now have been able to set at defiance the stern strength of immeasurable age.

It must then be subject to death, and have had a birth.

(d) The great contest of the elements may one day be brought to

Again, since the mighty members of the world so furiously fight one against the other, stirred up in most unhallowed warfare, do you not see that some end may be set to their long contest? Either when the sun and every kind of heat have drunk up all the moisture and

won the day: which they are struggling to do, but as yet they have not accomplished their effort: so great a supply do the rivers bring and threaten to go beyond their bounds, and deluge all things from out the deep abyss of ocean; all in vain, since the winds as they sweep the seas, diminish them, and so does the sun in heaven, as he unravels their fabric with his rays, and they boast that they can dry up all things, ere moisture can reach the end of its task. So vast a war do they breathe out in equal contest, as they struggle and strive one with another for mighty issues; yet once in this fight fire gained the upper hand, and once, as the story goes, moisture reigned supreme on the plains. For fire won its way and burnt up many things, all-devouring, when the resistless might of the horses of the sun went astray and carried Phaethon amain through the whole heavens and over all lands. But, thereupon, the almighty father, thrilled with keen anger, with sudden stroke of his thunder dashed high-souled Phaethon from his chariot to earth, and the sun, meeting him as he fell, caught the everlasting lamp of the world, and tamed the scattered steeds, and yoked them trembling, and so guiding them along their own path, replenished all things; so forsooth sang the old poets of the Greeks: but it is exceeding far removed from true reasoning. For fire can only prevail when more bodies of its substance have risen up out of infinite space; and then its strength fails, vanquished in some way, or else things perish, burnt up by its fiery breath. Moisture likewise,ⁿ once gathered together and began to prevail, as the story goes, when it overwhelmed living men with its waves. Thereafter, when its force

an end by
the victory
of one or
the other.

Story tells
that both
fire and
water have
for a time
held the
upper hand.

The myth
of
Phaethon

represents
the excess
of fire-
atoms.

The story
of the
Deluge.

was by some means turned aside and went its way, even all that had gathered together from infinite space, the rains ceased, and the strength of the rivers was brought low.

B. The Birth of the World. It was not made by design, but by the chance concourse of atoms after ages.

But by what means that gathering together of matter established earth and sky and the depths of ocean, and the courses of sun and moon, I will set forth in order. For in very truth not by design did the first-beginnings of things place themselves each in their order with foreseeing mind, nor indeed did they make compact what movements each should start; but because many first-beginnings of things in many ways, driven on by blows from time everlasting until now, and moved by their own weight, have been wont to be borne on, and to unite in every way and essay everything that they might create, meeting one with another, therefore it comes to pass that scattered abroad through a great age, as they try meetings and motions of every kind, at last those come together, which, suddenly cast together, become often the beginnings of great things, of earth, sea and sky, and the race of living things.

First atoms gathered together in a wild discordant storm.

Then, when things were so, neither could the sun's orb be seen, flying on high with its bounteous light, nor the stars of the great world, nor sea nor sky, nay nor earth nor air, nor anything at all like to the things we know, but only a sort of fresh-formed storm, a mass gathered together of first-beginnings of every kind, whose discord was waging war and confounding interspaces, paths, interlacings, weights, blows, meetings, and motions, because owing to their unlike forms and diverse shapes, all things were unable to remain in union, as they do now, and to give and receive harmonious motions. From this massⁿ parts began to fly off hither and thither, and like things

Then the various

to unite with like, and so to unfold a world, and to sunder its members and dispose its great parts, that is, to mark off the high heaven from the earth, and the sea by itself, so that it might spread out with its moisture kept apart, and likewise the fires of the sky by themselves, unmixed and kept apart.

Yea, verily, first of all the several bodies of earth, because they were heavy and interlaced, met together in the middle, and all took up the lowest places; and the more they met and interlaced, the more did they squeeze out those which were to make sea, stars, sun, and moon, and the walls of the great world. For all these are of smoother and rounder seeds, and of much smaller particles than earth. And so, bursting out from the quarter of the earth through its loose-knit openings, first of all the fiery ether rose up and, being so light, carried off with it many fires, in not far different wise than often we see now, when first the golden morning light of the radiant sun reddens over the grass bejewelled with dew, and the pools and ever-running streams give off a mist, yea, even as the earth from time to time is seen to steam: and when all these are gathered together as they move upwards, clouds with body now formed weave a web beneath the sky on high. Thus then at that time the light and spreading ether, with body now formed, was set all around and curved on every side, and spreading wide towards every part on all sides, thus fenced in all else in its greedy embrace. There followed then the beginnings of sun and moon, whose spheres turn in air midway betwixt earth and ether; for neither earth nor the great ether claimed them for itself, because they were neither heavy enough to sink and settle down, nor light enough to be able to

parts of
the world
were sepa-
rated off.

The earth
particles
gathered
together at
the bottom,
and
squeezed
out those
which were
to form
sea and
heavenly
bodies.
The light
particles
of ether
rose up

and formed
the firma-
ment.

Sun and
moon were
created.

glide along the topmost coasts, yet they are so set between the two that they can move along their living bodies, and are parts of the whole world ; even as in our bodies some limbs may abide in their place, while yet there are others moving. So when these things were withdrawn, at once the earth sank down, where now the vast blue belt of ocean stretches, and flooded the furrows with salt surge. And day by day, the more the tide of ether and the rays of the sun with constant blows along its outer edges constrained the earth into closer texture, so that thus smitten it condensed and drew together round its centre, the more did the salt sweat, squeezed out from its body, go to increase the sea and the swimming plains, as it trickled forth ; yea, and the more did those many bodies of heat and air slip forth and fly abroad, and far away from earth condense the high glowing quarters of the sky. Plains sank down, lofty mountains grew in height ; for indeed the rocks could not settle down, nor could all parts subside equally in the same degree.

Then earth
sank in
the middle
and formed
the sea,

while
mountains
were left
standing.

Summary :
earth sank
with sea,
air, and
ether
unmixed
above it.

Highest of
all the
ether moves
on in its
constant
untroubled
course.

So then the weight of earth, with body now formed, sank to its place, and, as it were, all the slime of the world slid heavily to the bottom, and sank right down like dregs ; then the sea and then the air and then the fiery ether itself were all left unmixed with their liquid bodies ; they are lighter each than the next beneath, and ether, most liquid and lightest of all, floats above the breezes of air, nor does it mingle its liquid body with the boisterous breezes of air ; it suffers all our air below to be churned by headstrong hurricanes, it suffers it to brawl with shifting storms, but itself bears on its fires as it glides in changeless advance. For that the ether can follow on quietly and with one constant effort, the Pontos proves, the sea

which flows on with changeless tide, preserving ever the one constant rhythm of its gliding.

¹ Now let us sing what is the cause of the motions of the stars. First of all, if the great globe of the sky turns round,ⁿ we must say that the air presses on the pole at either end, and holds it outside and closes it in at both ends; and that then another current of air flows above, straining on to the same goal, towards which the twinkling stars of the everlasting world roll on; or else that there is another current beneath, to drive up the sphere reversely, as we see streams moving round wheels with their scoops. It may be also that the whole sky can abide in its place, while yet the shining signs are carried on; either because swift currents of ether are shut within them, and seeking a way out are turned round and round, and so roll on the fires this way and that through the nightly quarters of the sky; or else an air streaming from some other quarter without turns and drives the fires; or else they can themselves creep on, whither its own food invites and summons each as they move on, feeding their flaming bodies everywhere throughout the sky. For it is hard to declare for certain which of these causes it is in this world; but what can happen and does happen through the universe in the diverse worlds, fashioned on diverse plans, that is what I teach, and go on to set forth many causes for the motions of the stars, which may exist throughout the universe; and of these it must needs be one which in our world too

C. The motions of the stars.
 1. If the whole sky moves round, it must be driven either by a current above or by a current below.
 2. If the sky remains firm, the stars are moved either (a) by fire inside them or (b) by exterior currents, or (c) by desire to reach their proper fuel. All these causes act somewhere in the universe.

¹ This paragraph seems misplaced: but it is not clear where it should come in (possibly after the next paragraph), and it may be a subsequent addition, which the poet did not properly work into its context.

gives strength to the motions of the heavenly signs ; but to affirm which of them it is, is in no wise the task of one treading forward step by step.

The earth is supported by a 'second nature' beneath it, which is closely connected with the air. Similarly 1. our limbs are no weight to us because of their close connexion;

2. the earth shows its connexion with air above by communicating to it its own shocks ;

3. the soul, thanks to its close connexion, can lift the body.

Now that the earth may rest quiet in the mid region of the world, it is natural that its mass shouldⁿ gradually thin out and grow less, and that it should have another nature underneath from the beginning of its being, linked and closely bound in one with those airy parts of the world amid which it has its place and life. For this cause it is no burden, nor does it weigh down the air ; even as for every man his own limbs are no weight, nor is the head a burden to the neck, nay nor do we feel that the whole weight of the body is resting on the feet ; but all weights which come from without and are laid upon us, hurt us, though often they are many times smaller. Of such great matter is it, what is the power of each thing. So then the earth is not suddenly brought in as some alien body, nor cast from elsewhere on alien air, but it has been begotten along with it from the first beginning of the world, a determined part of it, as our limbs are seen to be of us. Moreover, the earth, when shaken suddenly by violent thunder, shakes with its motion all that is above it ; which it could not by any means do, were it not bound up with the airy parts of the world and with the sky. For they cling one to the other with common roots, linked and closely bound in one from the beginning of their being. Do you not see too how great is the weight of our body, which the force of the soul, though exceeding fine, supports, just because it is so nearly linked and closely bound in one with it ? And again, what can lift the body in a nimble leap save the force of the soul, which steers the limbs ? Do you not see now

how great can be the power of a fine nature, when it is linked with a heavy body, even as the air is linked with earth, and the force of the mind with us?

Nor can the sun's blazing wheelⁿ be much greater or less, than it is seen to be by our senses. For from whatsoever distances fires can throw us their light and breathe their warm heat upon our limbs, they lose nothing of the body of their flames because of the interspaces, their fire is no whit shrunken to the sight. Even so, since the heat of the sun and the light he sheds, arrive at our senses and cheer the spots on which they fall, the form and bulk of the sun as well must needs be seen truly from earth, so that you could alter it almost nothing to greater or less. The moon, too, whether she illumines places with a borrowed light as she moves along, or throws out her own rays from her own body, however that may be, moves on with a shape no whit greater than seems that shape, with which we perceive her with our eyes. For all things which we behold far sundered from us through much air, are seen to grow confused in shape, ere their outline is lessened. Wherefore it must needs be that the moon, inasmuch as she shows a clear-marked shape and an outline well defined, is seen by us from earth in the heights, just as she is, clear-cut all along her outer edges, and just the size she is. Lastly, all the fires of heaven that you see from earth; inasmuch as all fires that we see on earth, so long as their twinkling light is clear, so long as their blaze is perceived, are seen to change their size only in some very small degree from time to time to greater or less, the further they are away: so we may know that the heavenly fires can only be a very minute degree smaller or larger by a little tiny piece.

The sun is not much larger or smaller than we see it. For fires, so long as seen and felt, do not look smaller.

The moon is just the size we see it.

For as long as things are clear in outline, they do not look smaller.

The stars may be slightly smaller or larger than we see them.

The great
light and
heat of this
small sun
may be
caused
(a) because
it is the one
fountain-
head of all
the world's
light;

(b) because
it kindles
the sur-
rounding
air;

(c) because
it has
hidden
heat all
around it.

The orbits
of sun,
moon, and
stars may
be caused

(a) because
the nearer
a heavenly
body is to
earth, the
more slowly

This, too, is not wonderful,ⁿ how the sun, small as it is, can send out so great light, to fill seas and all lands and sky with its flood, and to bathe all things in its warm heat. For it may be that from this spotⁿ the one well of light for the whole world is opened up and teems with bounteous stream, and shoots out its rays, because the particles of heat from all the world gather together on every side, and their meeting mass flows together in such wise, that here from a single fountain-head their blazing light streams forth. Do you not see too how widely a tiny spring of water sometimes moistens the fields, and floods out over the plains? Or again, it may be that from the sun's fire, though it be not great, blazing light seizes on the air with its burning heat, if by chance there is air ready to hand and rightly suited to be kindled when smitten by tiny rays of heat; even as sometimes we see crops or straw caught in widespread fire from one single spark. Perhaps, too, the sun, shining on high with its rosy torch, has at his command much fire with hidden heat all around him, fire which is never marked by any radiance, so that it is only laden with heat and increases the stroke of the sun's rays.

Nor is there any single and straightforward accountⁿ of the sun, to show how from the summer regions he draws near the winter turning-point of Capricorn, and how turning back thence, he betakes himself to the solstice-goal of Cancer; and how the moon is seen in single months to traverse that course, on which the sun spends the period of a year as he runs. There is not, I say, any single cause assigned for these things. For, first and foremost, it is clear that it may come to pass, as the judgement of the holy man, Democritus, sets before us, that the nearer the

several stars are to earth, the less can they be borne on with the whirl of heaven. For its swift keen strength passes away and is lessened beneath, and so little by little the sun is left behind with the hindmost signs, because it is much lower than the burning signs. And even more the moon : the lower her course, the further it is from the sky and nearer to earth, the less can she strain on her course level with the signs. Moreover the weaker the whirl with which she is borne along, being lower than the sun, the more do all the signs catch her up all around and pass her. Therefore, it comes to pass that she seems to turn back more speedily to each several sign, because the signs come back to her. It may be too that from quarters of the world athwart his path two airs may stream alternately, each at a fixed season, one such as to push the sun away from the summer signs right to the winter turning-places and their icy frost, and the other to hurl him back from the icy shades of cold right to the heat-laden quarters and the burning signs. And in like manner must we think that the moon and those stars which roll through ⁿ the great years in great orbits, can be moved by airs from the opposite quarters in turn. Do you not see how by contrary winds the lower clouds too are moved in directions contrary to those above? Why should those stars be less able to be borne on by currents contrary one to the other through the great orbits in the heaven?

is it moved by the whirl of heaven. The sun then moves less swiftly than the stars, the moon than the sun, Therefore the moon seems to move quickest in the opposite direction : (b) because there are transverse currents which blow the sun from one tropic to the other : and so with moon and stars.

But night shrouds the earth in thick darkness, either when after his long journey ⁿ the sun has trodden the farthest parts of heaven, and fainting has breathed out his fires shaken by the journey and made weak by much air, or because the same force, which carried on his orb

Night is caused either (a) because the sun's light is extinguished

or (b) because he travels under the earth. Dawn is caused either (a) because the returning sun sends his rays in advance or (b) because the fires which compose the new sun gradually collect. Such regular recurrence is not wonderful. It has many parallels in nature.

Where causes are original, effects come in due sequence. The disproportion of night and day, except at the equinox, may be caused either (a) because

above the earth, constrains him to turn his course back beneath the earth.

Likewise at a fixed time Matutaⁿ sends abroad the rosy dawn through the coasts of heaven, and spreads the light, either because the same sun, returning again beneath the earth, seizes the sky in advance with his rays, fain to kindle it, or because the fires come together and many seeds of heat are wont to stream together at a fixed time, which each day cause the light of a new sun to come to birth. Even so story tells that from the high mountains of Ida scattered fires are seen as the light rises, and then they gather as if into a single ball, and make up the orb. Nor again ought this to be cause of wonder herein, that these seeds of fire can stream together at so fixed a time and renew the brightness of the sun. For we see many events, which come to pass at a fixed time in all things. Trees blossom at a fixed time, and at a fixed time lose their flower. Even so at a fixed time age bids the teeth fall, and the hairless youth grow hairy with soft down and let a soft beard flow alike from either cheek. Lastly, thunder, snow, rains, clouds, winds come to pass at seasons of the year more or less fixed. For since the first-beginnings of causes were ever thus and things have so fallen out from the first outset of the world, one after the other they come round even now in fixed order.

And likewise it may be that days grow longer and nights wane, and again daylight grows less, when nights take increase; either because the same sun,ⁿ as he fulfils his course in unequal arcs below the earth and above, parts the coasts of heaven, and divides his circuit into unequal portions; and whatever he has taken away from the one part, so much the more he replaces, as he goes round, in

the part opposite it, until he arrives at that sign in the sky, where the node of the year makes the shades of night equal to the daylight. For in the mid-course of the blast of the north wind and of the south wind, the sky holds his turning-points apart at a distance then made equal, on account of the position of the whole starry orbit, in which the sun covers the space of a year in his winding course, as he lights earth and heaven with his slanting rays : as is shown by the plans of those who have marked out all the quarters of the sky, adorned with their signs in due order. Or else, becauseⁿ the air is thicker in certain regions, and therefore the trembling ray of his fire is delayed beneath the earth, nor can it easily pierce through and burst out to its rising. Therefore in winter time the long nights lag on, until the radiant ensign of day comes forth. Or else again, because in the same way in alternate parts of the year the fires, which cause the sun to rise from a fixed quarter, are wont to stream together now more slowly, now more quickly, therefore it is that those seem to speak the truth (who say that a new sun is born every day).¹

The moon may shineⁿ when struck by the sun's rays, and day by day turn that light more straightly to our sight, the more she retires from the sun's orb, until opposite him she has glowed with quite full light and, as she rises, towering on high, has seen his setting ; then little by little she must needs retire back again, and, as it were, hide her light, the nearer she glides now to the sun's fire from the opposite quarter through the orbit of the signs ; as those have it, who picture that the moon is like a ball, and keeps to the path of her course below the

at that time the arcs of day and night into which the sun divides his daily revolution are necessarily equalized ;

or (b) because, at some seasons, the sun is delayed by dense air ; or (c) because his fires gather together more slowly.

The phases of the moon may be caused, (a) if the moon shines by reflected light, by her gradual movement to and from a position opposite the sun.

¹ A line is lost, of which this was possibly the sense.

(b) If she shines by her own light :
 1. by another opaque body which accompanies and hides her ;
 2. because she has one light side, which she turns towards us and away again.

(c) If a fresh moon is created daily, by a regular succession of forms, like the succession of the seasons.

sun. There is also a way by which she can roll on with her own light, and yet show changing phases of brightness. For there may be another body, which is borne on and glides together with her, in every way obstructing and obscuring her ; yet it cannot be seen, because it is borne on without light. Or she may turn round, just like, if it so chance, the sphere of a ball, tinged over half its surface with gleaming light, and so by turning round the sphere produce changing phases, until she turns to our sight and open eyes that side, whichever it be, that is endowed with fires ; and then little by little she twists back again and carries away from us the light-giving part of the round mass of the ball ; as the Babylonian teaching of the Chaldaeans,ⁿ denying the science of the astronomers, essays to prove in opposition ; just as if what each of them fights for may not be the truth, or there were any cause why you should venture to adopt the one less than the other. Or again, why a fresh moon could not be created every day with fixed succession of phases and fixed shapes, so that each several day the moon created would pass away, and another be supplied in its room and place, it is difficult to teach by reasoning or prove by words, since so many things can be created in fixed order. Spring goes on her wayⁿ and Venus, and before them treads Venus's winged harbinger ; and following close on the steps of Zephyrus, mother Flora strews and fills all the way before them with glorious colours and scents. Next after follows parching heat, and as companion at her side dusty Ceres and the etesian blasts of the north winds. Then autumn advances, and step by step with her Euhus Euan. Then follow the other seasons and their winds, Volturnus, thundering on high,

and the south wind, whose strength is the lightning. Last of all the year's end brings snow, and winter renews numbing frost; it is followed by cold, with chattering teeth. Wherefore it is less wonderful if the moon is born at a fixed time, and again at a fixed time is blotted out, since so many things can come to pass at fixed times.

Likewise also the eclipses of the sunⁿ and the hidings of the moon, you must think may be brought about by several causes. For why should the moon be able to shut out the earth from the sun's light, and thrust her head high before him in the line of earth, throwing her dark orb before his glorious rays; and at the same time it should not be thought that another body could do this, which glides on ever without light. And besides, why should not the sun be able at a fixed time to faint and lose his fires, and again renew his light, when, in his journey through the air, he has passed by places hostile to his flames, which cause his fires to be put out and perish? And why should the earth be able in turn to rob the moon of light, and herself on high to keep the sun hidden beneath, while the moon in her monthly journey glides through the sharp-drawn shadows of the cone; and at the same time another body be unable to run beneath the moon or glide above the sun's orb, to break off his rays and streaming light? And indeed, if the moon shines with her own light, why should she not be able to grow faint in a certain region of the world, while she passes out through spots unfriendly to her own light? —

Eclipses of the sun may be caused (a) by the moon; (b) by some other opaque body; (c) when he passes through regions which choke his light. Eclipses of the moon may be caused (a) when earth gets between sun and moon; (b) and (c) as in the case of the sun.

For the rest, since I have unfolded in what manner each thing could take place throughout the blue vault of the great world, so that we might learn what force and what cause started the diverse courses of the sun, and the

D. We must return to the early days of the earth.

journeyings of the moon, and in what way they might go hiding with their light obscured, and shroud the unexpected earth in darkness, when, as it were, they wink and once again open their eye and look upon all places shining with their clear rays ; now I return to the youth of the world, and the soft fields of earth, and what first with new power of creation they resolved to raise into the coasts of light and entrust to the gusty winds.

The earth
brought
forth first
vegetable
life,

then
living
creatures :

first birds,
springing
from eggs ;

then
animals,

First of all the earth gave birth to the tribes of herbage and bright verdure all around the hills and over all the plains, the flowering fields gleamed in their green hue, and thereafter the diverse trees were started with loose rein on their great race of growing through the air. Even as down and hair and bristles are first formed on the limbs of four-footed beasts and the body of fowls strong of wing, so then the newborn earth raised up herbage and shrubs first, and thereafter produced the races of mortal things, many races born in many ways by diverse means. For neither can living animals have fallen from the sky nor the beasts of earth have issued forth from the salt pools. It remains that rightly has the earth won the name of mother, since out of earth all things are produced. And even now many animals spring forth from the earth, formed by the rains and the warm heat of the sun ; wherefore we may wonder the less, if then more animals and greater were born, reaching their full growth when earth and air were fresh. First of all the tribe of winged fowls and the diverse birds left their eggs, hatched out in the spring season, as now in the summer the grasshoppers of their own will leave their smooth shells, seeking life and livelihood. Then it was that the earth first gave birth to the race of mortal things. For much heat and moisture

abounded then in the fields; thereby, wherever a suitable spot or place was afforded, there grew up wombs,ⁿ clinging to the earth by their roots; and when in the fullness of time the age of the little ones, fleeing moisture and eager for air, had opened them, nature would turn to that place the pores in the earth and constrain them to give forth from their opened veins a sap, most like to milk; even as now every woman, when she has brought forth, is filled with sweet milk, because all the current of her nourishment is turned towards her paps. The earth furnished food for the young, the warmth raiment, the grass a couch rich in much soft down. But the youth of the world called not into being hard frosts nor exceeding heat nor winds of mighty violence: for all things grow and come to their strength in like degrees.

springing
from
wombs
rooted in
the earth.

Nature fed
and clothed
them:

nor was
there
excessive
cold, heat,
or wind.

Wherefore, again and again, rightly has the earth won, rightly does she keep the name of mother, since she herself formed the race of men, and almost at a fixed time brought forth every animal which ranges madly everywhere on the mighty mountains, and with them the fowls of the air with their diverse forms. But because she must needs come to some end of child-bearing, she ceased, like a woman worn with the lapse of age. For time changes the nature of the whole world, and one state after another must needs overtake all things, nor does anything abide like itself: all things change their abode, nature alters all things and constrains them to turn. For one thing rots away and grows faint and feeble with age, thereon another grows up and issues from its place of scorn. So then time changes the nature of the whole world, and one state after another overtakes the earth, so that it cannot bear what it did, but can bear what it did not of old.

Earth was
thus the
mother of
all things;

but in time
she ceased
to bear

in accord-
ance
with the
universal
law of
change and
succession.

Nature first
created
many
deformities,

but they
could not
survive or
propagate
their kind.

Many races
perished
which could
not protect
themselves

or claim
man's
protection
as a return
for their
services.

And many monsters too earthⁿ then essayed to create, born with strange faces and strange limbs, the man-woman, between the two, yet not either, sundered from both sexes, some things bereft of feet, or in turn robbed of hands, things too found dumb without mouths, or blind without eyes, or locked through the whole body by the clinging of the limbs, so that they could not do anything or move towards any side or avoid calamity or take what they needed. All other monsters and prodigies of this sort she would create; all in vain, since nature forbade their increase, nor could they reach the coveted bloom of age nor find food nor join in the work of Venus. For we see that many happenings must be united for things, that they may be able to beget and propagate their races; first that they may have food, and then a way whereby birth-giving seeds may pass through their frames, and issue from their slackened limbs; and that woman may be joined with man, they must needs each have means whereby they can interchange mutual joys.

And it must needs be that many races of living things then perished and could not beget and propagate their offspring. For whatever animals you see feeding on the breath of life, either their craft or bravery, aye or their swiftness has protected and preserved their kind from the beginning of their being. And many there are, which by their usefulness are commended to us, and so abide, trusted to our tutelage. First of all the fierce race of lions, that savage stock, their bravery has protected, foxes their cunning, and deer their fleet foot. But the lightly-sleeping minds of dogs with their loyal heart, and all the race which is born of the seed of beasts of burden, and withal the fleecy flocks and the horned herds, are all trusted

to the tutelage of men, Memmius. For eagerly did they flee the wild beasts and ensue peace and bounteous fodder gained without toil of theirs, which we grant them as a reward because of their usefulness. But those to whom nature granted none of these things, neither that they might live on by themselves of their own might, nor do us any useful service, for which we might suffer their kind to feed and be kept safe under our defence, you may know that these fell a prey and spoil to others, all entangled in the fateful trammels of their own being, until nature brought their kind to destruction.

But neither were there Centaurs,ⁿ nor at any time can there be animals of twofold nature and double body, put together of limbs of alien birth, so that the power and strength of each,¹ derived from this parent and that, could be equal. That we may learn, however dull be our understanding, from this. First of all, when three years have come round, the horse is in the prime of vigour, but the child by no means so; for often even now in his sleep he will clutch for the milky paps of his mother's breasts. Afterwards, when the stout strength and limbs of horses fail through old age and droop, as life flees from them, then at last youth sets in in the prime of boyish years, and clothes the cheeks with soft down; that you may not by chance believe that Centaurs can be created or exist, formed of a man and the load-laden breed of horses, or Scyllas either, with bodies half of sea-monsters, girt about with ravening dogs, or any other beasts of their kind, whose limbs we see cannot agree one with another; for they neither reach their prime together nor gain the full strength of their bodies nor let it fall

Monsters
com-
pounded of
animals of
different
species
never could
have
existed, for
the growths
of the
various
animals are
not parallel,

¹ The text is uncertain, but this must have been the general sense.

nor their
tastes and
habits alike.

The notion
of the
youth of
the world
has led
to many
similar
absurdities.

Such com-
binations
were no
more
possible
then than
now.

away in old age, nor are they fired with a like love, nor do they agree in a single character, nor are the same things pleasant to them throughout their frame. Indeed, we may see the bearded goats often grow fat on hemlock, which to man is rank poison. Since moreover flame is wont to scorch and burn the tawny bodies of lions just as much as every kind of flesh and blood that exists on the earth, how could it have come to pass that the Chimæra, one in her threefold body, in front a lion, in the rear a dragon, in the middle, as her name shows, a goat, should breathe out at her mouth fierce flame from her body? Wherefore again, he who feigns that when the earth was young and the sky new-born, such animals could have been begotten, trusting only in this one empty plea of the world's youth, may blurt out many things in like manner from his lips; he may say that then streams of gold flowed everywhere over the lands, and that trees were wont to blossom with jewels, or that a man was born with such expanse of limbs, that he could plant his footsteps right across the deep seas, and with his hands twist the whole sky about him. For because there were in the earth many seeds of things at the time when first the land brought forth animals, yet that is no proof that beasts of mingled breed could have been born, or the limbs of living creatures put together in one; because the races of herbage and the crops and fruitful trees, which even now spring forth abundantly from the earth, yet cannot be created intertwined one with another, but each of these things comes forth after its own manner, and all preserve their separate marks by a fixed law of nature.

91 But the race of manⁿ was much hardier then in the

fields, as was seemly for a race born of the hard earth : Primitive
it was built up on larger and more solid bones within, man :
he was
fastened with strong sinews traversing the flesh ; not hardy
easily to be harmed by heat or cold or strange food or
any taint of the body. And during many lustres of the
sun rolling through the sky they prolonged their lives and long-
after the roving manner of wild beasts. Nor was there lived.
any sturdy steerer of the bent plough, nor knew any one He did
how to work the fields with iron, or to plant young shoots not till,
in the earth, or cut down the old branches off high trees
with knives. What sun and rains had brought to birth, but lived
what earth had created unasked, such gift was enough on the
to appease their hearts. Among oaks laden with acorns fruits of
they would refresh their bodies for the most part ; and the trees,
the arbutu-berries, which now you see ripening in winter-
time with scarlet hue, the earth bore then in abundance,
yea and larger. And besides these the flowering youth
of the world then bare much other rough sustenance,
enough and to spare for miserable mortals. But to slake and drank
their thirst streams and springs summoned them, even from
as now the downrush of water from the great mountains streams.
calls clear far and wide to the thirsting tribes of wild
beasts. Or again they dwelt in the woodland haunts
of the nymphs, which they had learnt in their wander-
ings, from which they knew that gliding streams of water
washed the wet rocks with bounteous flood, yea washed
the wet rocks, as they dripped down over the green moss,
and here and there welled up and burst forth over the
level plain. Nor as yet did they know how to serve their He had no
purposes with fire, nor to use skins and clothe their body clothing
in the spoils of wild beasts, but dwelt in woods and the or house,
but lived in

caves and
forests.

There was
no common
life,

and love
was pro-
miscuous.

Some beasts
he hunted,
some he
avoided.

At night
he lay on
the ground,

and did
not fear the
darkness

so much as
the attacks
of wild
beasts.

caves on mountains and forests, and amid brushwood would hide their rough limbs, when constrained to shun the shock of winds and the rain-showers. Nor could they look to the common weal, nor had they knowledge to make mutual use of any customs or laws. Whatever booty chance had offered to each, he bore it off; for each was taught at his own will to live and thrive for himself alone. And Venus would unite lovers in the woods; for each woman was wooed either by mutual passion, or by the man's fierce force and reckless lust, or by a price, acorns and arbuter-berries or choice pears. And trusting in their strange strength of hand and foot they would hunt the woodland tribes of wild beasts with stones to hurl or clubs of huge weight; many they would vanquish, a few they would avoid in hiding; and like bristly boars these woodland men would lay their limbs naked on the ground, when overtaken by night time, wrapping themselves up around with leaves and foliage. Nor did they look for daylight and the sun with loud wailing, wandering fearful through the fields in the darkness of night, but silent and buried in sleep waited mindful, until the sun with rosy torch should bring the light into the sky. For, because they had been wont ever from childhood to behold darkness and light begotten, turn by turn, it could not come to pass that they should ever wonder, or feel mistrust lest the light of the sun should be withdrawn for ever, and never-ending night possess the earth. But much greater was another care, inasmuch as the tribes of wild beasts often made rest dangerous for wretched men. Driven from their home they would flee from their rocky roof at the coming of a foaming boar or a mighty lion, and in the dead of night in

terror they would yield their couches spread with leaves to their cruel guests.

Nor then much more than now would the races of men leave the sweet light of life with lamentation. For then more often would some one of them be caught and furnish living food to the wild beasts, devoured by their teeth, and would fill woods and mountains and forests with his groaning, as he looked on his living flesh being buried in a living tomb. And those whom flight had saved with mangled body, thereafter, holding trembling hands over their noisome sores, would summon Orcus with terrible cries, until savage griping pains had robbed them of life, all helpless and knowing not what wounds wanted. Yet never were many thousands of men led beneath the standards and done to death in a single day, nor did the stormy waters of ocean dash ships and men upon the rocks. Then rashly, idly, in vain would the sea often arise and rage, and lightly lay aside its empty threatenings, nor could the treacherous wiles of the windless waves lure any man to destruction with smiling waters; then the wanton art of sailing lay as yet unknown. Then, too, want of food would give over their drooping limbs to death, now on the other hand 'tis surfeit of good things brings them low. They all unwitting would often pour out poison for themselves, now with more skill they give it to others.

Then more men fell a prey to wild beasts than now,

but thousands were not killed in battle, nor drowned at sea.

They died of hunger, not surfeit; they poisoned themselves, not others.

E. Beginning of civilization. Fire, clothing and shelter led to home life,

Then after they got themselves huts and skins and fire, and woman yoked with man retired to a single (home, and the laws of marriage)¹ were learnt, and they saw children sprung from them, then first the race of man began to soften. For fire brought it about that their

¹ A line is lost, of which this was probably the sense.

and friend-
ship with
neighbours.

Compacts
were for
the most
part ob-
served.

Origin of
language.
Words
grew up
naturally by
experiment,
just as
children
and animals
try their
various
powers.

Language
cannot
have been
deliberately
invented by
any man.
Why
should one

chilly limbs could not now so well bear cold under the roof of heaven, and Venus lessened their strength, and children, by their winning ways, easily broke down the haughty will of their parents. Then, too, neighbours began eagerly to form friendship one with another, not to hurt or be harmed,ⁿ and they commended to mercy children and the race of women, when with cries and gestures they taught by broken words that 'tis right for all men to have pity on the weak. Yet not in all ways could unity be begotten, but a good part, the larger part, would keep their compacts loyally; or else the human race would even then have been all destroyed, nor could breeding have prolonged the generations until now.

But the diverse sounds of the tongueⁿ nature constrained men to utter, and use shaped the names of things, in a manner not far other than the very speechlessness of their tongue is seen to lead children on to gesture, when it makes them point out with the finger the things that are before their eyes. For every one feels to what purpose he can use his own powers. Before the horns of a calf appear and sprout from his forehead, he butts with them when angry, and pushes passionately. But the whelps of panthers and lion-cubs already fight with claws and feet and biting, when their teeth and claws are scarce yet formed. Further, we see all the tribe of winged fowls trusting to their wings, and seeking an unsteady aid from their pinions. Again, to think that any one then parcelled out names to things, and that from him men learnt their first words, is mere folly. For why should he be able to mark off all things by words, and to utter the diverse sounds of the tongue, and at the same time others be thought unable to do this? Moreover, if

others too had not used words to one another, whence was implanted in him the concept of their use ;ⁿ whence was he given the first power to know and see in his mind what he wanted to do? Likewise one man could not avail to constrain many, and vanquish them to his will, that they should be willing to learn all his names for things ; nor indeed is it easy in any way to teach and persuade the deaf what it is needful to do ; for they would not endure it, nor in any way suffer the sounds of words unheard before to batter on their ears any more to no purpose. Lastly, what is there so marvellous in this, if the human race, with strong voice and tongue, should mark off things with diverse sounds for diverse feelings? When the dumb cattle, yea and the races of wild beasts are wont to give forth diverse unlike sounds, when they are in fear or pain, or again when their joys grow strong. Yea ~~Verily~~, this we may learn from things clear to see. When the large loose lips of Molossian dogs start to snarl in anger, baring their hard teeth, thus drawn back in rage, they threaten with a noise far other than when they bark and fill all around with their clamour. Yet when they essay fondly to lick their cubs with their tongue, or when they toss them with their feet, and making for them with open mouth, feign gently to swallow them, checking their closing teeth, they fondle them with growling voice in a way far other than when left alone in the house they bay, or when whining they shrink from a beating with cringing body. Again, is not neighing seen to differ likewise, when a young stallion in the flower of his years rages among the mares, pricked by the spur of winged love, and from spreading nostrils snorts for the fray, and when, it may be, at other times he whinnies with

man be able to do it and not others?

How could he have the conception of language? or make others accept it?

It is not wonderful that man evolved language, for even animals express different feelings by different sounds, e. g. the dog.

the horse,

and even
birds.

trembling limbs? Lastly, the tribe of winged fowls and the diverse birds, hawks and ospreys and gulls amid the sea-waves, seeking in the salt waters for life and livelihood, utter at other times cries far other than when they are struggling for their food and fighting for their prey. And some of them change their harsh notes with the weather, as the long-lived tribes of crows and flocks of rooks, when they are said to cry for water and rains, and anon to summon the winds and breezes. And so, if diverse feelings constrain animals, though they are dumb, to utter diverse sounds, how much more likely is it that mortals should then have been able to mark off things unlike with one sound and another.

Lightning
brought
men fire;

¹ Herein, lest by chance you should ask a silent question, it was the lightning that first of all brought fire to earth for mortals, and from it all the heat of flames is spread abroad. For we see many things flare up, kindled with flames from heaven, when a stroke from the sky has brought the gift of heat. Yet again, when a branching tree is lashed by the winds and sways to and fro, reeling and pressing on the branches of another tree, fire is struck out by the strong force of the rubbing, anon the fiery heat of flame sparkles out, while branches and trunks rub each against the other. Either of these happenings may have given fire to mortals. And then the sun taught them to cook food and soften it by the heat of flame, since they saw many things among the fields grow mellow, vanquished by the lashing of his rays and by the heat.

or else the
ignition
of trees by
friction.

The action
of the
sun's rays
taught
them
cooking.

And day by day those who excelled in understanding

¹ This and the next two paragraphs seem rather out of place here: possibly they should be placed before the preceding paragraph, or else they may be a later addition by the poet.

and were strong in mind showed them more and more how to change their former life and livelihood for new habits and for fire. Kings began to build cities and to found a citadel, to be for themselves a stronghold and a refuge; and they parcelled out and gave flocks and fields to each man for his beauty or his strength or understanding; for beauty was then of much avail, and strength stood high. Thereafter property was invented and gold found, which easily robbed the strong and beautiful of honour; for, for the most part, however strong men are born, however beautiful their body, they follow the lead of the richer man. Yet if a man would steer his life by true reasoning, it is great riches to a man to live thriftily with calm mind; for never can he lack for a little. But men wished to be famous and powerful, that their fortune might rest on a sure foundation, and they might in wealth lead a peaceful life; all in vain, since struggling to rise to the heights of honour, they made the path of their journey beset with danger, and yet from the top, like lightning, envy smites them and casts them down anon in scorn to a noisome Hell; since by envy, as by lightning, the topmost heights are most often set ablaze, and all places that rise high above others; so that it is far better to obey in peace than to long to rule the world with kingly power and to sway kingdoms. Wherefore let them sweat out their life-blood, worn away to no purpose, battling their way along the narrow path of ambition; inasmuch as their wisdom is but from the lips of others, and they seek things rather through hearsay than from their own feelings, and that is of no more avail now nor shall be hereafter than it was of old.

Then came
a change.

Kings built
cities,

and assigned
lands, at
first for
personal
merit.

Then came
the dis-
covery of
gold, which
altered
everything.

It prompts
ambition,

which goes
before
a fall.

Such a life
is but built
on hearsay.

Monarchy
was over-
thrown,

and anarchy
prevailed :

then magis-
trates and
laws were
made,

and crime
restrained
by punish-
ment.

Thence
arose the
fear of
punish-
ment,

which
makes a
quiet life
impossible.

Origin of
the belief
in the gods.

And so the kings were put to death and the ancient majesty of thrones and proud sceptres was overthrown and lay in ruins, and the glorious emblem on the head of kings was stained with blood, and beneath the feet of the mob mourned the loss of its high honour; for once dreaded overmuch, eagerly now it is trampled. And so things would pass to the utmost dregs of disorder, when every man sought for himself the power and the headship. Then some of them taught men to appoint magistrates and establish laws that they might consent to obey ordinances. For the race of men, worn out with leading a life of violence, lay faint from its feuds; wherefore the more easily of its own will it gave in to ordinances and the close mesh of laws. For since each man set out to avenge himself more fiercely in his passion than is now suffered by equal laws, for this cause men were weary of leading a life of violence. Thence fear of punishment taints the prizes of life. For violence and hurt tangle every man in their toils, and for the most part fall on the head of him, from whom they had their rise, nor is it easy for one who by his act breaks the common pact of peace to lead a calm and quiet life. For though he be unnoticed of the race of gods and men, yet he must needs mistrust that his secret will be kept for ever; nay indeed, many by speaking in their sleep or raving in fever have often, so 'tis said, betrayed themselves, and brought to light misdeeds long hidden.

Next, what cause spread abroad the divine powers of the gods among great nations, and filled cities with altars, and taught men to undertake sacred rites at yearly festivals, rites which are honoured to-day in great empires and at great places; whence even now there is implanted

in mortals a shuddering dread, which raises new shrines of the gods over all the world, and constrains men to throng them on the holy days ; of all this it is not hard to give account in words. For indeed already the races of mortalsⁿ used to perceive the glorious shapes of the gods with waking mind, and all the more in sleep with wondrous bulk of body. To these then they would assign sense because they were seen to move their limbs, and to utter haughty sounds befitting their noble mien and ample strength. And they gave them everlasting life because their images came in constant stream and the form remained unchanged, and indeed above all because they thought that those endowed with such strength could not readily be vanquished by any force. They thought that they far excelled in happiness, because the fear of death never harassed any of them, and at the same time because in sleep they saw them accomplish many marvels, yet themselves not undergo any toil. Moreover, they beheld the workings of the sky in due order, and the diverse seasons of the year come round, nor could they learn by what causes that was brought about. And so they made it their refuge to lay all to the charge of the gods, and to suppose that all was guided by their will. And they placed the abodes and quarters of the gods in the sky, because through the sky night and the moon are seen to roll on their way, moon, day and night, and the stern signs of night, and the torches of heaven that rove through the night, and the flying flames, clouds, sunlight, rain, snow, winds, lightning, hail, and the rapid roar and mighty murmurings of heaven's threats.

1. Men were visited by great and beautiful images : they believed them to have sense, to be immortal,

and to be happy.

2. They could not understand celestial phenomena, and attributed them to divine beings, whom they believed to dwell in the sky.

Ah ! unhappy race of men, when it has assigned such acts to the gods and joined therewith bitter anger ! what

What misery this

belief
causes.
True piety
consists not
in worship,
but the
peaceful
mind.

Yet the
wonders of
heaven
may well
wake a
belief in
divine
power.

So too
may a
thunder-
storm,

or a storm
at sea,

groaning did they then beget for themselves, what sores for us, what tears for our children to come! Nor is it piety at all to be seen often with veiled head turning towards a stone,ⁿ and to draw near to every altar, no, nor to lie prostrate on the ground with outstretched palms before the shrines of the gods, nor to sprinkle the altars with the streaming blood of beasts, nor to link vow to vow, but rather to be able to contemplate all things with a mind at rest. For indeed when we look up at the heavenly quarters of the great world, and the firm-set ether above the twinkling stars, and it comes to our mind to think of the journeyings of sun and moon, then into our hearts weighed down with other ills, this misgiving too begins to raise up its wakened head, that there may be perchance some immeasurable power of the gods over us, which whirls on the bright stars in their diverse motions. For lack of reasoning assails our mind with doubt, whether there was any creation and beginning of the world, and again whether there is an end, until which the walls of the world may be able to endure this weariness of restless motion, or whether gifted by the gods' will with an everlasting being they may be able to glide on down the everlasting groove of time, and set at naught the mighty strength of measureless time.¹ Moreover, whose heart does not shrink with terror of the gods, whose limbs do not crouch in fear, when the parched earth trembles beneath the awful stroke of lightning and rumblings run across the great sky? Do not the peoples and nations tremble, and proud kings shrink in every limb, thrilled with the fear of the gods, lest for some foul crime or haughty word the heavy time of retribution be ripe? Or again, when the fiercest force of furious wind at sea sweeps

the commander of a fleet over the waters with his strong legions and his elephants, all in like case, does he not seek with vows the peace of the gods, and fearfully crave in prayer a calm from wind and favouring breezes; all in vain, since often when caught in the headstrong hurricane he is borne for all his prayers to the shallow waters of death? So greatly does some secret force grind beneath its heel the greatness of men, and it is seen to tread down and make sport for itself of the glorious rods and relentless axes.ⁿ Again, when the whole earth rocks beneath men's feet, and cities are shaken to their fall or threaten doubtful of their doom, what wonder if the races of mortal men despise themselves and leave room in the world for the mighty power and marvellous strength of the gods, to guide all things?

or an
earthquake.

For the rest, copper and gold and iron were discovered, and with them the weight of silver and the usefulness of lead, when a fire had burnt down vast forests with its heat on mighty mountains, either when heaven's lightning was hurled upon it, or because waging a forest-war with one another men had carried fire among the foe to rouse panic, or else because allured by the richness of the land they desired to clear the fat fields, and make the countryside into pasture, or else to put the wild beasts to death, and enrich themselves with prey. For hunting with pit and fire arose first before fencing the grove with nets and scaring the beasts with dogs. However that may be, for whatever cause the flaming heat had eaten up the forests from their deep roots with terrible crackling, and had baked the earth with fire, the streams of silver and gold, and likewise of copper and lead, gathered together and trickled from the boiling veins into hollow places in

Metals were
revealed by
a great
forest fire,
however
caused.

The chance
masses
cooled on

the ground suggested the working of metals with fire, the ground. And when they saw them afterwards hardened and shining on the ground with brilliant hue, they picked them up, charmed by their smooth bright beauty, and saw that they were shaped with outline like that of the several prints of the hollows. Then it came home to them that these metals might be melted by heat, and would run into the form and figure of anything, and indeed might be hammered out and shaped into points and tips, however sharp and fine, so that they might fashion weapons for themselves, and be able to cut down forests and hew timber and plane beams smooth, yea, and to bore and punch and drill holes. And, first of all, they set forth to do this no less with silver and gold than with the resistless strength of stout copper; all in vain, since their power was vanquished and yielded, nor could they like the others endure the cruel strain. For copper was of more value, and gold was despised for its uselessness, so soon blunted with its dull edge. Now copper is despised, gold has risen to the height of honour. So rolling time changes the seasons of things. What was of value, becomes in turn of no worth; and then another thing rises up and leaves its place of scorn, and is sought more and more each day, and when found blossoms into fame, and is of wondrous honour among men.

Gold was then despised and copper valuable: now this is reversed. The uses of iron and bronze were then discovered. Now, in what manner the nature of iron was found, it is easy for you to learn of yourself, Memmius. Their arms of old were hands, nails, and teeth, and stones, and likewise branches torn from the forests, and flame and fires, when once they were known. Thereafter the strength of iron and bronze was discovered. And the use of bronze was learnt before that of iron, inasmuch as its nature is more tractable, and it is found in greater stores. With

and the forging of weapons and instruments.

Gold was then despised and copper valuable: now this is reversed.

The uses of iron and bronze were then discovered.

Bronze was used first,

bronze they would work the soil of the earth, and with bronze mingle in billowy warfare, and deal wasting wounds, and seize upon flocks and fields. For all things naked and unarmed would readily give in to them equipped with arms. Then, little by little, the iron sword made its way, and the form of the bronze sickle¹¹ was made a thing of scorn, and with iron they began to plough up the soil of earth; and the contests of war, now hovering in doubt, were made equal. It was their way to climb armed on to the flanks of a horse, to guide it with reins, and do doughty deeds with the right hand, before they learnt to essay the dangers of war in a two-horsed chariot. And the yoking of two horses came before yoking four, and climbing up armed into chariots set with scythes. Then it was the Poeni who taught the Lucanian kine,¹² with towered body, grim beasts with snaky hands, to bear the wounds of warfare, and work havoc among the hosts of Mars. So did gloomy discord beget one thing after another, to bring panic into the races of men in warfare, and day by day gave increase to the terrors of war.

and then discarded for iron.

Horses were ridden in war before chariots were invented.

The Carthaginians introduced elephants to battle.

They tried bulls, too, in the service of war, and essayed to send savage boars against the foe. And some sent on before them mighty lions with armed trainers and cruel masters, who might be able to control them, and hold them in chains; all in vain, since in the heat of the mellow of slaughter they grew savage, and made havoc of the hosts, both sides alike, tossing everywhere the fearful manes upon their heads, nor could the horsemen soothe the hearts of their horses, alarmed at the roaring, and turn them with their bridles against the foe. The lionesses launched their furious bodies in a leap on every side, and made for the faces of those that came against them, or

Other animals were tried too in warfare, but all did more harm to their own side. Lions;

bulls;

boars.

tore them down in the rear when off their guard, and twining round them hurled them to the ground foredone with the wound, fastening on them with their strong bite and crooked claws. The bulls tossed their own friends and trampled them with their feet, and with their horns gashed the flanks and bellies of the horses underneath, and ploughed up the ground with threatening purpose. And the boars gored their masters with their strong tusks, savagely splashing with their own blood the weapons broken in them, and threw to the ground horsemen and footmen in one heap. For the horses would swerve aside to avoid the fierce onset of a tusk, or rear and beat the air with their feet; all in vain, since you would see them tumble with tendons severed, and strew the ground in their heavy fall. If ever they thought they had been tamed enough at home before the fight, they saw them burst into fury, when it came to conflict, maddened by the wounds, shouting, flying, panic, and confusion, nor could they rally any part of them; for all the diverse kinds of wild beasts would scatter hither and thither; even as now often the Lucanian kine cruelly mangled by the steel, scatter abroad, when they have dealt many deadly deeds to their own friends. <If indeed they ever acted thus. But scarce can I be brought to believe that, before this dire disaster befell both sides alike, they could not foresee and perceive in mind what would come to pass. And you could more readily maintainⁿ that this was done somewhere in the universe, in the diverse worlds fashioned in diverse fashion, than on any one determined earth.>¹ But indeed they wished to do it not so much in

¹ These six lines were probably written by the poet as a later addition.

the hope of victory, as to give the foemen cause to moan, resolved to perish themselves, since they mistrusted their numbers and lacked arms.

It was only a desperate expedient.

A garment tied together came before woven raiment. Weven fabric comes after iron, for by iron the loom is fashioned, nor in any other way can such smooth treadles be made, or spindles or shuttles and ringing rods. And nature constrained men to work wool before the race of women; for all the race of men far excels in skill and is much more cunning; until the sturdy husbandman made scorn of it, so that they were glad to leave it to women's hands, and themselves share in enduring hard toil, and in hard work to harden limbs and hands.

After iron came woven clothes.

Men first worked the loom, but afterwards left it to women and worked in the fields.

But nature herself, creatress of things, was first a pattern for sowing and the beginning of grafting, since berries and acorns fallen from the trees in due time put forth swarms of shoots beneath; from nature, too, they learnt to insert grafts into branches, and to plant young saplings in the ground over the fields. Then one after another they essayed ways of tilling their smiling plot, and saw the earth tame wild fruits with tender care and fond tilling. And day by day they would constrain the woods more and more to retire up the mountains, and to give up the land beneath to tilth, that on hills and plains they might have meadows, pools, streams, crops, and glad vineyards, and the grey belt of olives might run between with its clear line, spreading over hillocks and hollows and plains; even as now you see all the land clear marked with diverse beauties, where men make it bright by planting it here and there with sweet fruit-trees, and fence it by planting it all round with fruitful shrubs.

Nature taught men sowing and grafting.

New kinds of cultivation were tried and the woods driven further up the hills. The plain was bright with every sort of cultivation.

But imitating with the mouth the liquid notes of birds

Music arose by the imitation of the notes of birds and wind in the reeds. came long before men were able to sing in melody right through smooth songs and please the ear. And the whistling of the zephyr through the hollows of reeds first taught the men of the countryside to breathe into hollowed hemlock-stalks. Then little by little they learned the sweet lament, which the pipe pours forth, stopped by the players' fingers, the pipe invented amid the pathless woods and forests and glades, among the desolate haunts of shepherds, and the divine places of their rest. These tunes would soothe their minds and please them when sated with food ; for then all things win the heart. And

Their rough songs delighted them after meals in the open air,

with rough dances to match.

Modern improvements have not increased the pleasure.

so often, lying in friendly groups on the soft grass near some stream of water under the branches of a tall tree, at no great cost they would give pleasure to their bodies, above all when the weather smiled and the season of the year painted the green grass with flowers. Then were there wont to be jests, and talk, and merry laughter. For then the rustic muse was at its best ; then glad mirth would prompt to wreath head and shoulders with garlands twined of flowers and foliage, and to dance all out of step, moving their limbs heavily, and with heavy foot to strike mother earth ; whence arose smiles and merry laughter, for all these things then were strong in freshness and wonder. And hence came to the wakeful a solace for lost sleep, to guide their voices through many notes, and follow the windings of a song, and to run over the reeds with curling lip ; whence even now the watchmen preserve these traditions, and have learnt to keep to the rhythm of the song, nor yet for all that do they gain a whit greater enjoyment from the pleasure, than the woodland race of earthborn men of old. For what is

here at hand, unless we have learnt anything sweeter before, pleases us above all, and is thought to excel, but for the most part the better thing found later on destroys or changes our feeling for all the old things. So hatred for their acorns set in, and the old couches strewn with grass and piled with leaves were deserted. Likewise the garment of wild beasts' skin fell into contempt; yet I suppose that of old it was so envied when found, that he who first wore it was waylaid and put to death, though after all it was torn to pieces among them, and was spoiled with much blood, and could be turned to no profit. It was skins then in those days, and now gold and purple that vex men's life with cares and weary them out with war; and for this, I think, the greater fault lies with us. For cold used to torture the earth-born, as they lay naked without skins; but it does us no hurt to go without our purple robes, set with gold and massy figures, if only there be some common garment to protect us. And so the race of men toils fruitlessly and in vain for ever, and wastes its life in idle cares, because, we may be sure, it has not learned what are the limits of possession, nor at all how far true pleasure can increase. And this, little by little, has advanced life to its high plane, and has stirred up from the lowest depths the great seething tide of war.

The old food and dress were despised,

but now we fight for gold and purple, as they fought for skins.

This brings civilization and warfare.

But sun and moon, like watchmen, traversing with their light all round the great turning vault of the world, taught men that the seasons of the year come round, and that the work goes on after a sure plan and a sure order.

From sun and moon men learnt the regularity of the seasons.

Now fenced in with strong towers they would live their life, and the land was parcelled out and marked off: then

Then came walled

towns, sea-faring, and treaties, and poets told of great events.

the sea was gay with the flying sails of ships :¹ now treaties were drawn up, and they had auxiliaries and allies, when poets first began to hand down men's deeds in songs ; yet not much before that were letters discovered. Therefore our age cannot look back to see what was done before, unless in any way reason points out traces.

Gradually all the sciences and fine arts developed.

Ships and the tilling of the land, walls, laws, weapons, roads, dress, and all things of this kind, all the prizes, and the luxuries of life, one and all, songs and pictures, and the polishing of quaintly-wrought statues, practice and therewith the experience of the eager mind taught them little by little, as they went forward step by step. So, little by little, time brings out each several thing into view, and reason raises it up into the coasts of light. For they saw one thing after another grow clear in their mind, until by their arts they reached the topmost pinnacle.

¹ Two words at the end of the line are corrupt : *puppibus* or *navibus* must have been the first.

BOOK VI

IN time gone by Athens, of glorious name, first spread
among struggling mortals the fruits that bear corn, and
fashioned life afresh, and enacted laws; she, too, first
gave sweet solace for life, when she gave birth to the man
gifted with the great mind, who once poured forth all
wisdom from his truthful lips; yea, even when his light
was quenched, thanks to his divine discoveries his glory,
noised abroad of old, is now lifted to the sky. For when
he saw that mortals had by now attained wellnigh all
things which their needs crave for subsistence, and that,
as far as they could, their life was established in safety,
that men abounded in power through wealth and honours
and renown, and were haughty in the good name of their
children, and yet not one of them for all that had at
home a heart less anguished, but with torture of mind
lived a fretful life without any respite, and was constrained
to rage with savage complaining, he then did understand
that it was the vessel itself which wrought the disease, and
that by its disease all things were corrupted within, what-
soever came into it gathered from without, yea even
blessings; in part because he saw that it was leakingⁿ
and full of holes, so that by no means could it ever be
filled; in part because he perceived that it tainted as
with a foul savour all things within it, which it had taken
in. And so with his discourse of truthful words he
purged the heart and set a limit to its desire and fear,
and set forth what is the highest good, towards which we

Intro-
duction.
It is the
glory of
Athens
to have
produced
Epicurus.

He saw
that men,
in spite of
all outward
advantages,
were
miserable,

and realized
that the
fault lay in
the heart.

He purged
the heart
and taught

it the path
to the
highest
good,
and the
means of
meeting the
ills of life.

The dark-
ness of the
mind must
be dispelled
by know-
ledge.

I must
now speak
of the
phenomena
of the sky ;

✓ which men
falsely
believe
to be the
work of
gods,

all strive, and pointed out the path, whereby along a narrow track we may strain on towards it in a straight course ; he showed what there is of ill in the affairs of mortals everywhere, coming to being and flying abroad in diverse forms, be it by the chance or the force of nature,ⁿ because nature had so brought it to pass ; he showed from what gates it is meet to sally out against each ill, and he proved that 'tis in vain for the most part that the race of men set tossing in their hearts the gloomy billows of care. For even as children tremble and fear everything in blinding darkness, so we sometimes dread in the light things that are no whit more to be feared than what children shudder at in the dark and imagine will come to pass. This terror then, this darkness of the mind, must needs be scattered not by the rays and the gleaming shafts of day, but by the outer view and the inner law of nature. Wherefore I will hasten the more to weave the thread of my task in my discourse.

And now that I have shown that the quarters of the firmament are mortal, and that the heaven is fashioned of a body that has birth, and have unravelled wellnigh all that happens therein, and must needs happen, listen still to what remains ; forasmuch as once <I have made bold> to climb the glorious car¹ <I will tell how the tempests> of the winds arise,² and are appeased, and all that once was raging is changed again, when its fury is appeased ; and all else which mortals see coming to pass on earth and in the sky, when often they are in suspense with panic-stricken mind—things which bring their hearts low through dread

¹ Two or more lines must here be lost.

² Read *exsistant, placentur et omnia rursus quae furerent.*

of the gods, and bow them down grovelling to earth, because their ignorance of true causes constrains them to assign things to the ordinance of the gods, and to admit their domination. For those who have learnt aright that the gods lead a life free from care, yet if from time to time they wonder by what means all things can be carried on, above all among those things which are descried above our heads in the coasts of heaven, are borne back again into the old beliefs of religion, and adopt stern overlords, whom in their misery they believe have all power, knowing not what can be and what cannot, yea, and in what way each thing has its power limited, and its deepset boundary-stone : wherefore all the more they stray, borne on by a blind reasoning. And unless you spew out all this from your mind and banish far away thoughts unworthy of the gods and alien to their peace, the holy powers of the gods, degraded by thy thought, will often do thee harm ; not that the high majesty of the gods ^u can be polluted by thee, so that in wrath they should yearn to seek sharp retribution, but because you yourself will imagine that those tranquil beings in their placid peace set tossing the great billows of wrath, nor with quiet breast will you approach the shrines of the gods, nor have strength to drink in with tranquil peace of mind the images which are borne from their holy body to herald their divine form to the minds of men. And therefore what manner of life will follow, you may perceive. And in order that truest reasoning may drive this far from us, although much has already gone forth from me, yet much remains to be adorned with polished verse ; we must grasp the outer view and inner law of the sky, we must sing of storms and flashing lightnings, of

through
ignorance
of nature's
laws.

Such belief
is a degrada-
tion to
the gods
and will
destroy
your own
peace in
religious
worship.

We must
find out

the laws of
storms and
lightnings.

how they act and by what cause they are severally carried along; that you may not mark out the quarters of the sky, and ask in frenzied anxiety, whence came this winged flash, or to what quarter it departed hence, in what manner it won its way through walled places, and how after tyrant deeds it brought itself forth again: the causes of these workings they can by no means see, and think that a divine power brings them about. Do thou, as I speed towards the white line of the final goal, mark out the track before me, Calliope, muse of knowledge, thou who art rest to men and pleasure to the gods, that with thee to guide I may win the wreath with praise conspicuous.

A. Celestial
pheno-
mena.

I. Thunder
may be
caused
(a) when
clouds clash
together
face to face;
(being of
a texture
neither
close nor
rare);

(b) when
they scrape
along one
another's
sides, and
make a
noise like
wind in a
flapping
awning or
paper;

First of all the blue of the sky is shaken by thunder because the clouds in high heaven, scudding aloft, clash together when the winds are fighting in combat. For the sound comes not from a clear quarter of the sky, but wherever the clouds are massed in denser host, from there more often comes the roar and its loud rumbling. Moreover, the clouds cannot be of so dense a body as are stocks and stones, nor yet so thin as are mists and flying smoke. For either they were bound to fall dragged down by their dead weight, as do stones, or like smoke they could not hold together or keep within them chill snow and showers of hail. Again, they give forth a sound over the levels of the spreading firmament, as often an awning stretched over a great theatre gives a crack, as it tosses among the posts and beams; sometimes, too, it rages madly, rent by the boisterous breezes, and imitates the rending noise of sheets of paper—for that kind of sound too you may recognize in the thunder—or else a sound as when the winds buffet with their blows and beat through the air a hanging garment or flying papers. For

indeed it also comes to pass at times that the clouds cannot so much clash together face to face, but rather pass along the flank, moving from diverse quarters, and slowly grazing body against body; and then the dry sound brushes upon the ears, and is drawn out long, until they have issued from their close quarters.

In this way, too, all things seem often to tremble with heavy thunder, and the great walls of the containing world to be torn apart suddenly and leap asunder, when all at once a gathered storm of mighty wind has twisted its way into the clouds, and, shut up there with its whirling eddy, constrains the cloud more and more on all sides to hollow itself out with body thickening all around; and then, when the force and fierce onslaught of the wind have weakened it, it splits and makes a rending crash with a frightful cracking sound. Nor is that strange, when a little bladder full of air often likewise gives forth a little noise, if suddenly burst.

There is also another way, when winds blow through clouds, whereby they may make a noise. For often we see clouds borne along, branching in many ways, and rough-edged; even as, we may be sure, when the blasts of the north-west blow through a dense forest, the leaves give out a noise and the branches a rending crash. It comes to pass, too, sometimes, that the force of a mighty wind rushing on tears through the cloud and breaks it asunder with a front attack. For what the blast can do there is shown by things clear to see here on earth, where the wind is gentler and yet it tears out and sucks up tall trees from their lowest roots. There are, too, waves moving through the clouds, which as it were make a heavy roar in breaking; just as it comes to pass in deep

(c) when wind is caught in a cloud and suddenly bursts it;

(d) when wind blows through the clouds, like a forest;

(e) when the wind bursts a cloud open;

(f) when the rain-waves in the clouds

break ;
(g) when
lightning,
falling from
one cloud
into
another,
hisses or

(h) burns
the cloud
up ;

(i) when
the ice and
hail in the
clouds
crash.

2. Light-
ning may
be caused
(a) when
two clouds
colliding
strike fire.
(We see it
before we
hear the
thunder,
because
light travels
faster than
sound.)

rivers and the great sea, when the tide breaks. This happens too, when the fiery force of the thunderbolt falls from cloud to cloud ; if by chance the cloud has received the flame in deep moisture, it straightway slays it with a great noise ; just as often iron white-hot from the fiery furnaces hisses, when we have plunged it quickly into cold water. Or again, if a drier cloud receives the flame, it is at once fired, and burns with a vast noise ; just as if among the laurel-leafed mountains flame were to roam abroad beneath the eddying of the winds, burning them up in its mighty onset ; nor is there any other thing which is burnt up by the crackling flame with sound so terrible as the Delphic laurel of Phoebus. Again, often the great cracking of ice and the falling of hail makes a noise in the mighty clouds on high. For when the wind packs them tight, the mountains of storm-clouds, frozen close and mingled with hail, break up.

It lightens likewise, when the clouds at their clashing have struck out many seeds of fire ; just as if stone should strike on stone or on iron ; for then, too, a flash leaps out and scatters abroad bright sparks of fire. But it comes to pass that we receive the thunder in our ears after our eyes perceive the lightning, because things always move more slowly ⁿ to the ears than things which stir the eyes. That you may learn from this too ; if you see some one far off cutting down a giant tree with double-edged axe, it comes to pass that you see the stroke before the blow resounds in your ear ; even so we see the lightning too before we hear the thunder, which is sent abroad at the same moment with the flash, from a like cause, yea, born indeed from the same collision.

In this manner, too, the clouds colour places with leap-

ing light, and the storm lightens with quivering dart. When wind has come within a cloud, and moving there has, as I have shown before, made the hollow cloud grow thick, it grows hot with its own swift movement; even as you see all things become hot and catch fire through motion, yea, even a ball of lead too, whirling in a long course, will melt. And so when this heated wind has torn through the black cloud, it scatters abroad seeds of fire, as though struck out all at once by force, and they make the pulsing flashes of flame; thereafter follows the sound, which reaches our ears more slowly than things which come to the light of our eyes. This, we must know, comes to pass in thick clouds, which are also piled up high one on the other in wondrous slope; lest you be deceived because we below see how broad they are rather than to what a height they stand piled up. For do but look, when next the winds carry athwart the air clouds in the semblance of mountains, or when you see them heaped along a mighty mountain-range one above the other, pressing down from above, at rest in their appointed place, when the winds on all sides are in their graves. Then you will be able to mark their mighty mass, and to see their caverns built up, as it were, of hanging rocks: and when the storm has risen and the winds have filled them, with loud roar they chafe prisoned in the clouds, and threaten like wild beasts in cages; now from this side, now from that they send forth their roaring through the clouds, and seeking an outlet they move round and round, and roll together the seeds of fire from out the clouds, and so drive many into a mass and set the flame whirling within the hollow furnaces, until they have rent asunder the cloud and flashed blazing out.

(b) when wind shut in a cloud whirls itself round till it ignites.

This happens in high-piled masses of clouds:

the wind collects all the seeds of fire in one and then bursts through the cloud;

(c) when the fire in the clouds themselves is driven out as they collide,

For this cause, too, it comes to pass that this swift golden tinge of liquid fire flies down to earth, because it must needs be that the clouds have in themselves very many seeds of fire; for indeed when they are without any moisture, they have for the most part a bright and flaming colour. For verily it must needs be that they catch many such from the sun's light, so that with reason they are red, and pour forth their fires. When then the wind as it drives them has pushed and packed and compelled them into one spot, they squeeze out and pour forth the seeds which make the colours of flame to flash.

(d) or falls naturally as they break: this causes sheet lightning.

It lightens likewise, also when the clouds of heaven grow thin. For when the wind lightly draws them asunder as they move, and breaks them up, it must needs be that those seeds, which make the flash, fall out unbidden. Then it lightens without hideous alarm, without noise, and with no uproar.

3. Thunderbolts are of fiery nature,

For the rest, with what kind of nature the thunderbolts are endowed, is shown by the blows and the burned markings of their heat and the brands which breathe out noisome vapours of sulphur. For these are marks of fire, not of wind nor rain. Moreover, often too they set the roofs of dwellings on fire, and with swiftly-moving flame play the tyrant even within the houses. This fire, you must know, nature has fashioned most subtle of all subtle fires, of tiny swift-moving bodies—a flame to which nothing at all can be a barrier. For the strong thunderbolt can pass through the walls of houses, even as shouts and cries, can pass through rocks, through things of bronze, and in a moment of time can melt bronze and gold; likewise it causes wine in an instant to flee away, though the vessels be untouched, because, we may be sure, its heat as it comes easily loosens

and formed of exceedingly subtle fire, as we may see from their effects.

all around and makes rarefied the porcelain of the vessel, and finding its way right into the wine, with quick motion dissolves and scatters the first-beginnings of the wine. Yet this the heat of the sun is seen to be unable to bring about in a long age, though it has such exceeding strength in its flashing blaze. So much swifter and more masterful is this force of the thunderbolt.

Now in what manner they are fashioned and made with such force that they can with their blow burst open towers, overthrow houses, pluck up beams and joists, and upset and <destroy>¹ the monuments of men, take the life from men, lay low the flocks on every side; by what force they are able to do all other things of this sort, I will set forth, nor keep thee longer waiting on my promise.

We must explain their power and action.

We must suppose that thunderbolts are produced from thick clouds, piled up on high; for none are ever hurled abroad from the clear sky or from clouds of slight thickness. For without doubt clear-seen facts show that this comes to pass; at such times clouds grow into a mass throughout all the air, so that on all sides we might think that all darkness has left Acheron and filled the great vault of the sky; so terribly, when the noisome night of clouds has gathered together, do the shapes of black fear hang over us on high, when the storm begins to forge its thunderbolts. Moreover, very often a black storm-cloud too, over the sea, like a stream of pitch shot from the sky, falls upon the waters, laden with darkness afar off, and draws on a black storm big with thunderbolts and hurricanes, itself more than all filled full with fires and winds in such wise that even on land men shudder and seek for shelter. Thus then above our head must we suppose the

They are created only when clouds are densely piled on high,

as we see them sometimes over the sea.

¹ The last word of the line is uncertain.

storm is raised high. For indeed they would not shroud the earth in such thick gloom, unless there were many clouds built up aloft on many others, shutting out all sunlight; nor when they come could they drown it in such heavy rain, as to make the rivers overflow and the fields swim, unless the ether were filled with clouds piled up on high. Here, then, all is full of winds and fires; for this cause all around come crashings and lightnings. For verily I have shown ere now that the hollow clouds possess very many seeds of heat, and many they must needs catch from the sun's rays and their blaze. Therefore, when the same wind, which drives them together, as it chances, into some one place, has squeezed out many seeds of heat, and at the same time has mingled itself with this fire, an eddy finds its way in there and whirls round in a narrow space and sharpens the thunderbolt in the hot furnaces within. For it is kindled in two ways, both when it grows hot with its own swift motion, and from contact with the fire. Next, when the force of the wind has grown exceeding hot, and the fierce onset of the fire has entered in, then the thunderbolt, full-forged, as it were, suddenly rends through the cloud, and shot out is borne on flooding all places with its blazing light. In its train follows a heavy crash, so that the quarters of the sky above seem to be burst asunder on a sudden and crush us. Then a trembling thrills violently through the earth, and rumblings race over the high heaven; for then all the storm is shaken into trembling and roarings move abroad. And from this shock follows rain, heavy and abundant, so that all the air seems to be turned into rain, and thus falling headlong to summon earth back to

Such clouds
are full
of wind
and fire.

The wind
with the
fire forms
an eddy,

which
bursts the
cloud and
comes out
as a
thunder-
bolt,

bringing
with it
thunder,
lightning,
storm,
and rain.

deluge : so great a shower is shot forth with the rending of the cloud and the hurricane of wind, when the thunder-clap flies forth with its burning blow. At times, too, the rushing force of wind falls from without upon the cloud hot with its new-forged thunderbolt ; and when it has rent the cloud, straightway there falls out that fiery eddy which we call by the name our fathers gave it, the thunderbolt. The same thing happens in other directions, wherever its force has carried it. It comes to pass, too, sometimes that the force of the wind, starting without fire, yet catches fire on its course and its long wandering, as it loses in its journey, while it is approaching, certain large bodies, which cannot like the others make their way through the air ; and gathering other small bodies from the air itself it carries them along, and they mingling with it make fire in their flight ; in no other way than often a ball of lead grows hot in its course, when dropping many bodies of stiff cold it has taken in fire in the air. It comes to pass, too, that the force of the very blow rouses fire, when the force of the wind, starting cold without fire, has struck its stroke ; because, we may be sure, when it has hit with violent blow, particles of heat can stream together out of the wind itself, and at the same time from the thing which then receives the blow ; just as, when we strike a stone with iron, fire flies out, nor do the seeds of blazing heat rush together any more slowly at its blow, because the force of the iron is cold. Thus then a thing is bound to be kindled by the thunderbolt too, if by chance it is made fit and suitable for flame. Nor must we rashly think that the force of the wind can be wholly and utterly cold, when it has been discharged with such force

Sometimes the cloud is burst by an external wind.

Sometimes the wind itself ignites in its course,

like a flying ball of lead.

Or the blow of wind on cloud may create fire,

like iron striking on stone ;

for the wind itself is not wholly cold.

on high ; rather, if it is not beforehand on its journey kindled with fire, yet it arrives warmed and mingled with heat.

The velocity of the thunderbolt is caused (a) by the impulse with which it is shot from the cloud ;

(b) because it is made of small smooth particles ;

(c) because gravitation is augmented by a blow ;

(d) because in its long course it overcomes internal vibration.

(e) perhaps because it is helped by particles

But the great speed of the thunderbolt and its heavy blow comes to pass, yea, the thunderbolts always run their course with swift descent, because their force unaided is first of all set in motion in each case, and gathers itself within the clouds, and conceives a great effort for starting ; and then, when the cloud has not been able to contain the growing strength of its onset, its force is squeezed out, and so flies with wondrous impulse even as the missiles which are borne on, when shot from engines of war. Remember, too, that it is made of small and smooth particles, nor is it easy for anything to withstand such a nature : for it flies in between and pierces through the hollow passages, and so it is not clogged and delayed by many obstacles, and therefore it flies on falling with swift impulse. Again, because all weights by nature always press downwards, but when a blow is given as well, their swiftness is doubled and the impulse grows stronger, so that the more violently and quickly does it scatter with its blows all that impedes it, and continues on its journey. Once again, because it comes with long-lasting impulse,ⁿ it is bound to gather speed ever more and more, which grows as it moves, and increases its strong might and strengthens its stroke. For it brings it about that the seeds of the thunderbolt are one and all carried in a straight line, as it were towards one spot, driving them all as they fly into the same course. It may chance too that as it goes it picks up certain bodies even from the air, which kindle its swiftness by their blows. And it passes through things without harming them, and goes

right through many things, and leaves them whole, because the liquid fire flies through the pores. And it pierces through many things, since the very bodies of the thunderbolt have fallen on the bodies of things just where they are interlaced and held together. Moreover, it easily melts bronze and in an instant makes gold to boil, because its force is fashioned delicately of tiny bodies and of smooth particles, which easily force a way within, and being there at once loose all the knots and slacken the bonds. And most in autumn is the house of heaven, set with shining stars, shaken on all sides and all the earth, and again when the flowery season of spring spreads itself abroad. For in the cold fires are lacking, and in the heat winds fail, nor are clouds of so dense a body. And so when the seasons of heaven stand midway between the two, then all the diverse causes of the thunderbolt meet together. For the narrow channelⁿ of the year of itself mingles cold and heat—of both of which the cloud has need for the forging of thunderbolts—so that there is a wrangling among things, and with great uproar the air rages and tosses with fires and winds. For the first part of the heat is the last of the stiff cold, that is the spring season: wherefore it must needs be that different elements, mingled with one another, make battle and turmoil. And again, when the last heat rolls on mingled with the first cold—the season which is called by the name of autumn—then, too, keen winters do battle with summers. For this cause these seasons must be called the narrow channels of the year, nor is it strange, if at that time thunderbolts come most often, and a turbulent tempest is gathered in the sky, since from either side is

gathered from the air. It can penetrate and dissolve things, because it impinges on them just where their atoms are joined.

Thunderbolts occur mostly in spring and autumn, because then the various elements needful for their composition most coincide.

roused the turmoil of doubtful battle, on the one side with flames, on the other with mingled wind and wet.

The
thunderbolt
is no sign
of divine
wrath.

This is the way to see into the true nature of the thunderbolt, and to perceive by what force it does each thing, and not by unrolling vainly the Tyrrhenian propheciesⁿ and seeking out tokens of the hidden purpose of the gods, marking whence came the winged flash, or to what quarter it departed hence, in what manner it won its way through walled places, and how after tyrant deeds it brought itself forth again, or what harm the stroke of

If so, why do
the gods hit
the innocent
and leave
the guilty?

the thunderbolt from heaven can do. But if Jupiterⁿ and the other gods shake the shining quarters of heaven with awe-inspiring crash and hurl the fire to whatever point each may will, why do they not bring it about that those who have not guarded against some sin from which men hide their face, are struck and reek of the flames of lightning, with their breast pierced through, a sharp lesson to mortals? why rather is one conscious of no foul guilt wrapt and entangled, all innocent, in the flames, caught up in a moment in the fiery whirlwind of heaven? why again do they aim at waste places and spend their strength for naught? are they then practising their arms and strengthening their muscles? and why do they suffer the father's weapon to be blunted on the earth? why does he himself endure it and not spare it for his foes?

Why waste
their strokes
on deserts?

Why not
hurl them
from the
clear sky?

Again, why does Jupiter never hurl his thunderbolt to earth and pour forth his thunders when the heaven is clear on all sides? Or, as soon as the clouds have come up, does he himself then come down into them, so that from them he may direct the blow of his weapon from close at hand? Again, with what purpose does he throw into the sea? what charge has he against the waves, the

Why at
the sea?

mass of water and the floating fields? Moreover, if he wishes us to beware of the thunderbolt's stroke, why is he reluctant to let us be able to see its cast? but if he wishes to overwhelm us with the fire when off our guard, why does he thunder from that quarter, so that we can shun it? why does he gather darkness beforehand and rumblings and roarings? And how can you believe that he hurls his bolts at once to many sides? or would you dare to argue that this has never come to pass, that several strokes were made at one time? Nay, but very often has it happened and must needs happen, that as it rains and showers fall in many regions, so many thunderbolts are fashioned at one time. Lastly, why does he smite asunder the sacred shrines of the gods and his own glorious dwelling-places with hostile bolt? why does he destroy the fair-fashioned idols of the gods and take away their beauty from his images with his furious wound? And why does he aim mostly at lofty spots, so that we see most traces of his fire on mountain-tops?

Does
Jupiter
wish us to
beware
or not?

How can
he hurl
many bolts
at once?

Why
destroy
his own
temples
and images?

or scar
mountain
peaks?

Next after this, it is easy to learn from these things in what way there come into the sea, shot from on high, what the Greeks from their nature have named fiery presters.¹¹ For it comes to pass sometimes that as it were a column let down descends from the sky into the sea, around which the surges boil, violently stirred by breathing blasts, and all ships that are then caught in that turmoil, are harried and come into great danger. This comes to pass sometimes when the force of the wind set in motion cannot burst the cloud it starts to burst, but presses it down, so that it is weighed down like a column from sky to sea, little by little, as though something were being thrust down and stretched out into the waves by

4. Water-
spouts are
caused

when wind
cannot break
through
a cloud but
forces it
down to
meet the
sea;

a fist and the pushing of an arm above ; and when it has rent this cloud asunder, the force of the wind bursts forth thence into the sea and brings to pass a wondrous seething in the waters. For a whirling eddy descends and brings down along with it that cloud of pliant body ; and as soon as it has forced it down pregnant on to the levels of ocean, the eddy on a sudden plunges its whole self into the water, and stirs up all the sea with a great roar, constraining it to seethe. It comes to pass also that an eddy of wind by itself wraps itself in clouds, gathering together seeds of cloud from the air and, as it were, imitates the prester let down from the sky. When this eddy has let itself down to earth and broken up, it vomits forth a furious force of whirlwind and storm. But because this happens but rarely at all, and mountains must needs bar it on land, it is seen more often on a wide prospect of sea, and in an open stretch of sky.

or else
an eddy
gathers
clouds about
it and drops
to the earth.

5. Clouds
are formed
(a) as
particles
gather in
the air in
masses
gradually
growing
larger ;

especially
round
mountain
tops,
whither
they are
driven by
wind ;

Clouds gather up, when many bodies as they fly in this upper expanse of heaven have all at once come together—bodies of rougher kind, such as can, though they be but intertwined with slight links, yet grasp and cling to one another. These first of all cause little clouds to form ; then these grip hold of one another and flock together, and uniting they grow and are borne on by the winds, until at last a furious tempest has gathered together. It comes to pass, too, that mountain-tops, the closer they are to the sky, the more at that height do they smoke continually with the thick darkness of a murky cloud, because, when first the clouds form, still thin, before the eyes can see them, the winds carry them and drive them together to the topmost peaks of the mountain. There it comes to pass at last that, gathered now in a greater

throng and thickened, they can be seen, and at once they seem to rise into the open sky from the very summit of the mountain. For clear fact and our sense, when we climb high mountains, proclaim that windy regions stretch above. Moreover, that nature lifts up many such bodies all over the sea is shown by clothes hung out on the shore, when they take in a clinging moisture. Wherefore it is all the more seen that many bodies too can rise to swell the clouds from the salt tossing ocean; for in all their nature these two moistures are akin. Moreover, we see clouds and vapour rising from all rivers, and likewise from the very earth which, like a breath, are forced out hence and carried upwards, and curtain the heaven with their darkness, and little by little, as they meet, build up the clouds on high. For the vapour of the starry ether above presses down on them too, and, as it were by thickening, weaves a web of storm-cloud beneath the blue. It happens, too, that there come into our sky those bodies from without which make clouds and flying storms. For I have shown that their number is innumerable, and the sum of the deep measureless, and I have set forth with what speed the bodies fly, and how in a moment they are wont to traverse through space that none can tell. So it is not strange if often in a short time storm and darkness cover up sea and land with such great storm-clouds,¹ brooding above, inasmuch as on all sides through all the pores of the ether, and, as it were, through the breathing-holes of the great world all around there is furnished for the particles exit and entrance.

(b) as particles of moisture rise from the sea

or from rivers, or even lands;

(c) as particles fly in from outside the world.

Come now, in what manner the rainy moisture gathers together in the high clouds, and how the shower falls shot down upon the earth, I will unfold. First of all it will

6. Rain is caused (a) because the clouds

¹ Translating Lachmann's *nimbis* for *montis*.

contain
much
moisture;

(b) because
it rises into
them from
the sea

and the
rivers;

and is then
squeezed
out by the
force of the
wind and
the mass of
the clouds;

or again,
when the
clouds are
thin, by the
sun's heat.

Rain is
heavy when
the pressure
is violent,
and long
when there
is much
moisture.

The rain-
bow is
caused by
the sun
shining on
the rain.
Similarly
all meteorological

be granted me that already many seeds of water rise up with the clouds themselves from out of all things, and that both alike grow in this manner, both clouds and all water that is in the clouds, just as our body grows along with its blood, and likewise sweat and all the moisture too that is within the limbs. Besides, they often take in also much moisture from the sea, just like hanging fleeces of wool, when the winds carry the clouds over the great sea. In like manner moisture from all streams is raised to the clouds. And when many seeds of waters in many ways have duly come together there, increased from all quarters, the packed clouds are eager to shoot out the moisture for a double cause; for the force of the wind pushes it on and the very mass of the clouds, driven together in greater throng, presses on it and weighs it down from above, and makes the showers stream out. Moreover, when the clouds, too, are thinned by the winds or broken up, smitten by the sun's heat above, they send out the rainy moisture and drip, even as wax over a hot fire melts and flows in a thick stream. But a violent downpour comes to pass, when the clouds are violently pressed by either force, their own mass and the impulse of the wind. Yea, and the rains are wont to hold on long and make a great stay, when many seeds of water are gathered, and clouds piled upon clouds and streaming storms above them are borne on from every quarter, and when the whole earth smoking, breathes out its moisture. When at such time the sun amid the dark tempest has shone out with its rays full against the spray of the storm-clouds, then among the black clouds stand out the hues of the rainbow. All other things which grow above and are brought to being above, and which gather together in the clouds,

all, yea all of them, snow, winds, hail, chill hoar-frosts, and the great force of ice, that great hardener of waters, the curb which everywhere reins in the eager streams, it is yet right easy to find these out, and to see in the mind in what manner they all come to be and in what way they are brought to being, when you have duly learned the powers that are vouchsafed to the elements.

Come now and learn what is the law of earthquakes. And first of all let yourself suppose that the earth is below, just as above, full on all sides of windy caverns; and you must think it bears in its bosom many lakes and many pools and cliffs and sheer rocks; and that many rivers hidden beneath the back of the earth roll on amid their waves and submerged stones. For clear fact demands that it should be in all parts like itself. When these things then are placed and linked together beneath it, the earth above trembles, shaken by great falling masses, when beneath time has caused huge caverns to fall in; nay, indeed, whole mountains fall, and at the great sudden shock tremblings creep abroad thence far and wide. And with good reason, since whole houses by the roadside tremble when shaken by a wagon of no great weight, and rock none the less, whenever a stone in the road jolts on the iron circles of the wheels on either side.¹ It comes to pass too, when a vast mass of soil, loosened by age from the earth, rolls down into huge wide pools of water, that the earth too tosses and sways beneath the wave of water; even as a vessel sometimes cannot stand still, unless the liquid within has ceased to toss with unsteady wave.

phenomena
may be
explained.

B. Phenomena of earth.

I. Earthquakes.

The earth underneath has caverns and streams and rocks.

(a) When some cavern falls in, an earthquake is caused,

just as houses are rocked by passing wagons, or the land by an avalanche falling into a lake, like water rocking in a vessel.

Moreover, when the wind gathering throughout the cavernous places of the earth blows strong from one point,

(b) An earthquake

¹ The text is uncertain, but this seems to be the sense.

may be caused by a great subterranean wind blowing violently in one direction. And yet men will not believe in the ultimate destruction of the earth, when it is only the alteration of the wind which restores equilibrium.

and with all its weight presses on the lofty caves with mighty strength, the earth leans over to where the swooping force of the wind presses it. Then the houses that are built up upon the earth, yea, the more they are severally raised towards the sky, bend over in suspense, tottering towards the same quarter, and the timbers driven forward hang out ready to fall. And yet men fear to believe that a time of destruction and ruin awaits the nature of the great world, even when they see so great a mass of earth bowing to its fall. Why, unless the winds breathed in again, no force could put a curb on things or avail to pull them back from destruction as they fell. As it is, because turn by turn they breathe in and then grow violent, because, as it were, they rally and charge again and then are driven back and give ground, for this reason the earth more often threatens a fall than brings it to pass; for it leans over and then sways back again, and after falling forward recovers its position to a steady poise. In this way, then, the whole building rocks, the top more than the middle, the middle more than the bottom, the bottom but a very little.

(c) Sometimes the imprisoned air bursts forth, making a great chasm:

There is this cause, too, of that same great shaking, when suddenly wind and some exceeding great force of air, gathering either from without or within the earth itself, have hurled themselves into the hollow places of the earth, and there first rage among the great caves in turmoil, and rise, carried on in a whirl; and when afterwards the moving force driven forth bursts out and at the same time cleaves the earth and causes a huge chasm. Even as it came to pass at Sidon in Syria, and as was the case at Aegium in Peloponnese, cities overthrown by this

issue of air and the quaking of the earth which arose. And besides many walled towns have fallen through great movements on land, and many cities have sunk down deep into the sea, inhabitants and all. And even if it does not burst forth, yet the very impulse of the air and the fierce force of the wind are spread, like a fit of shivering, throughout the riddling passages of the earth, and thereby induce a trembling: even as cold, when it comes deep into our members, shakes them against their will and constrains them to tremble and to move. So men quiver with anxious terror throughout the cities, they fear the houses above, they dread the hollow places beneath, lest the nature of the earth should break them open all at once, and lest torn asunder she should open wide her maw, and, tumbled all together, desire to fill it with her own falling ruins. Let them then believe as they will that heaven and earth will be indestructible, entrusted to some everlasting protection; and yet from time to time the very present force of danger applies on some side or other this goad of fear, lest the earth, snatched away suddenly from beneath their feet be carried into the abyss, and the sum of things, left utterly without foundation, follow on, and there be a tumbling wreck of the whole world.

or remaining imprisoned, causes the earth to shudder.

It is a lesson that the whole world may thus be destroyed.

¹ First of all they wonder that nature does not make the sea bigger, since there comes into it so great a downpour of water, yea, all the streams from every quarter. Add, if you will, the shifting showers and the scudding storms, which bespatter and drench all seas and lands; add too its own springs; yet compared to the sum of the sea all

2. Why does not the sea increase?

¹ Either this paragraph is a disconnected fragment, or more probably something has been lost before it, introducing a new section of the paradoxes of nature on earth.

(a) Because these things will scarce be equal to the increase of a single all that is drop ; therefore it is the less strange that the great sea added to it does not increase. Moreover, the sun draws off a great is but a part by his heat. For verily we see the sun with its drop in the ocean ; blazing rays dry clothes wringing with moisture ; and (b) because yet we see many oceans spread wide beneath earth's level. much water is drawn off by sun, Therefore, although from each single place the sun sucks up but a small part of moisture from the level sea ; yet in so great a space it will draw largely from the waves. by wind, Then again, the winds too can lift a great part of moisture as they sweep the level seas, since very often we see roads dried by the wind in a single night, and the soft mud and by clouds ; harden into crusts. Moreover, I have shown that the clouds too lift up much moisture taken in from the great level of ocean, and scatter it broadcast over all the circle of lands, when it rains on the earth and the winds carry on the clouds. Lastly, since the earth is formed of or (c) oozes into the earth. porous body, and is continuous, surrounding on all sides the shores of the sea, it must needs be that, just as the moisture of water passes into the sea from the lands, it likewise filters through into the land from the salt sea levels ; for the brine is strained through, and the substance of moisture oozes back and all streams together at the fountain-head of rivers, and thence comes back over the lands with freshened current, where the channel once cleft has brought down the waters in their liquid march.

3. The eruption of Etna.

Now what is the reason that through the jaws of Mount Etna flames sometimes breathe forth in so great a hurricane, I will unfold. For indeed the flaming storm gathered with no moderate force of destruction and ruled tyrant through the fields of the Sicilians and turned to itself the gaze of neighbouring nations, when they saw all the

quarters of the heavens smoke and sparkle, and filled their breasts with shuddering anxiety for what new change nature might be planning.

Herein you must look far and deep and take a wide view to every quarter, that you may remember that the sum of things is unfathomable, and see how small, how infinitely small a part of the whole sum is one single heaven—not so large a part, as is a single man of the whole earth. And if you have this duly before you and look clearly at it and see it clearly, you would cease to wonder at many things. For does any of us wonder, if a man has caught in his limbs a fever gathering with burning heat, or any other painful disease in his members? For a foot will swell suddenly, often a sharp pain seizes on the teeth or makes its way right into the eyes; the holy fireⁿ breaks out and creeping about in the body burns any part which it has seized, and crawls through the limbs, because, as we may be sure, there are seeds of many things, and this earth and heaven has enough disease and malady, from which the force of measureless disease might avail to spread abroad. So then we must suppose that out of the infinite all things are supplied to the whole heaven and earth in number enough that on a sudden the earth might be shaken and moved, and a tearing hurricane course over sea and land, the fire of Etna well forth, and the heaven be aflame. For that too comes to pass, and the quarters of heaven blaze, and there are rainstorms gathering in heavier mass, when by chance the seeds of the waters have so arranged themselves. ‘Nay, but the stormy blaze of this fire is exceeding gigantic.’ So, too, be sure, is the river which is the greatest seen

Remember
the vastness
of the
universe.

Just as
many
diseases
may come
to the body,

so the
infinite can
supply in-
numerable
seeds of
malady to
heaven
and earth.

The erup-
tion seems
‘gigantic’;
but so

always does the greatest thing of its kind which we have seen.

by a man, who has never before seen any greater: so a tree or a man may seem gigantic, and in every kind of thing, the greatest that each man has seen, he always imagines gigantic, and yet all of them together, yea, with heaven and earth and sea besides, are nothing to the whole sum of the universal sum.

The eruption is caused because wind gathers in subterranean caverns,

heats itself and all around it, and then bursts out.

There are also passages from the neighbouring sea, by which blasts of wind enter in.

But now in what ways that flame is suddenly excited and breathes abroad from out the vast furnaces of Etna, I will unfold. First of all the nature of the whole mountain is hollow beneath, resting everywhere on caverns of basalt. Moreover, in all the caves there is wind and air. For air becomes wind, whenⁿ it is set in motion and aroused. When it has grown hot, and as it rages has heated all the rocks and the earth around wherever it touches them, and has struck out from them a fire hot with swift flames, it rises up and so drives itself forth on high straight through the mountain's jaws. And so it carries its heat far, and afar it scatters the ash and rolls on a smoke with thick murky darkness, and all the while hurls out rocks of marvellous weight; for you must not doubt that this is the stormy force of air. Moreover, in great part the sea makes its waves break and sucks in its tide at the roots of that mountain. From this sea caves stretch underneath right to the deep jaws of the mountain. By this path we must admit that <water> passes in, and the fact compels us <to believe that wind is mingled with it>¹ and pierces deep in from the open sea, and then breathes out, and so lifts up the flame and casts up rocks and raises clouds of dust. For on the topmost peak are craters, as the inhabitants name them; what we call jaws or mouths.

¹ A line is lost, of which the words in brackets give the probable sense.

Some things there are, too, not a few, for which to tell one cause is not enough ; we must give more, one of which is yet the actual cause ; just as if you yourself were to see the lifeless body of a man lying before you, it would be right that you should name all causes of death, in order that the one cause of that man's death might be told. For you could not prove that he had perished by the sword or of cold, or by disease or perchance by poison, but we know that it was something of this sort which was his fate. Likewise, we can say the same in many cases.

For some things we must mention several possible causes, one of which will be true in the given case.

The Nile, the river of all Egypt, alone in the world rises, as summer comes, and overflows the plains. Its waters Egypt often amid the hot season, either because in summer the north winds, which at that time are said to be the etesian winds, are dead against its mouths ; blowing against its stream they check it, and driving the waters upwards fill the channel and make it stop. For without doubt these blasts, which are started from the chill constellations of the pole are driven full against the stream. The river comes from the south out of the quarter where heat is born, rising among the black races of men of sunburnt colour far inland in the region of mid-day. It may be too that a great heaping up of sand may choke up the mouths as a bar against the opposing waves, when the sea, troubled by the winds, drives the sand within ; and in this manner it comes to pass that the river has less free issue, and the waves likewise a less easy downward flow. It may be, too, perhaps that rains occur more at its source at that season, because the etesian blasts of the north winds then drive all the clouds together into those quarters. And, we may suppose, when they have come together driven towards the region of mid-day,

4. The rise of the Nile may be caused (a) by the north winds opposing its stream ;

(b) by a sand-barrier choking the stream ;

(c) by excessive rain in the interior ;

(d) by the melting of snow on the mountains. there at last the clouds, thrust together upon the high mountains, are massed and violently pressed. Perchance it swells from deep among the high mountains of the Ethiopians, where the sun, traversing all with his melting rays, forces the white snows to run down into the plains.

5. Avernian spots; so-called as they are fatal to birds.

Such as lake Avernus,

a spot by the Parthenon,

and a place in Syria.

All owe their power

Come now, I will unfold to you with what nature are endowed all Avernian places and lakes. First of all, in that they are called by the name Avernian,ⁿ that is given them from the fact, because they are harmful to all birds, in that, when they have come right over those spots in their flight, forgetting the oarage of their wings, they slack their sails, and fall headlong, drooping with languid neck to earth, if by chance the nature of the spots so determines it, or into the water, if by chance the lake of Avernus spreads beneath them. That spot is by Cumae, where mountains smoke, choked with biting sulphur and enriched with hot springs. There is too a spot within the walls of Athens, on the very summit of the citadel, by the temple of Pallas Tritonis, the life-giver, whither croaking crows never steer their bodies on the wing, not even when the altars smoke with offerings. So surely do they fly, not in truth from the fierce wrath of Pallas, because of their vigil,ⁿ as the poets of the Greeks have sung, but the nature of the spot of its own force accomplishes the task. In Syria, too, it is said that there is likewise a spot to be seen, where, as soon as even four-footed beasts have set foot, its natural force constrains them to fall heavily, as though they were on a sudden slaughtered to the gods of the dead. Yet all these things are brought about by a natural law, and it is clearly seen

from what causes to begin with they come to be ; lest by chance ¹ the gateway of Orcus should be thought to be in these regions ; and thereafter we should believe that the gods of the dead lead the souls below from this spot to the shores of Acheron ; even as stags of winged feet are often thought by their scent to drag from their lairs the races of crawling serpents. And how far removed this is from true reason, now learn ; for now I will try to tell of the true fact.

First of all I say, what I have often said before as well, that in the earth there are shapes of things of every kind ; many which are good for food, helpful to life, and many which can induce diseases and hasten death. And that for different animals different things are suited for the purpose of life, I have shown before, because their nature and texture and the shapes of their first-beginnings are unlike, the one to the other. Many things which are harmful pass through the ears, many which are dangerous and rough to draw in ² find their way even through the nostrils, nor are there a few which should be avoided by the touch, yea, and shunned by the sight, or else are bitter to the taste.

Next we may see how many things are for man of a sensation keenly harmful, and are nauseous and noxious ; first, certain trees are endowed with a shade so exceeding noxious, that often they cause an aching of the head, if one has lain beneath them, stretched upon the grass. There is, too, a tree on the great mountains of Helicon, which is wont to kill a man with the noisome scent of its flower. We may be sure that these things all grow in this way from the earth, because the earth contains in

to natural causes, and are not gates of hell.

Earth contains the elements of all things, both good and bad.

And among them many things noxious to each of the senses.

Many such exhalations are poisonous to man. Trees.

¹ Reading *forte his* for *poteis* with Munro.

² Reading *tractu* with Polle.

An extin-
guished
candle to an
epileptic.

Castor to
a woman.

A hot bath
after a meal.

Charcoal.

Wine to the
feverish.

Mines to
those who
work in
them.

itself many seeds of many things, mingled in many ways, and gives them forth singled out. Again, a light but newly extinguished at night, when it meets the nostrils with its pungent smell, at once puts to sleep a man who is wont through disease to fall down and foam at the mouth. And a woman will fall back asleep with the heavy scent of castor, and her gay-coloured work slips from her delicate hands, if she has smelt it at the time when she has her monthly discharge. And many other things too slacken the drooping members throughout the frame, and make the soul totter within its abode. Once again, if you dally in the hot bath when you are too full, how easily it comes to pass often that you fall down, as you sit on the stool in the middle of the boiling water. And how easily the noxious force and smell of charcoal finds its way into the brain, unless we have taken water beforehand. And when the burning fever has seized and subdued the limbs,¹ then the smell of wine is like a slaughtering blow. Do you not see, too, sulphur produced in the very earth and pitch harden into crusts of a noisome scent? and again, when men are following up the veins of gold and silver, probing with the pick deep into the hidden parts of earth, what stench Scaptensulaⁿ breathes out underground? And what poison gold mines may exhale! how strange they make men's faces, how they change their colour! Have you not seen or heard how they are wont to die in a short time and how the powers of life fail those, whom the strong force of necessity imprisons in such work? All these effluences then

¹ The reading is extremely uncertain: Heinrichsen's suggestion *membra domans percepit fervida febris* may be right.

earth sends steaming forth, and breathes them out into the open and the clear spaces of heaven.

So these Avernian spots too must needs send up some fume deadly to the birds, which rises from the earth into the air, so that it poisons the expanse of heaven in a certain quarter ; and at the very moment when the bird is carried thither on its wings, it is checked there, seized by the secret poison, so that it tumbles straight down on the spot, where the effluence has its course. And when it has fallen into it, there the same force of the effluence takes away the remnant of life out of all its limbs. For verily first of all it causes a kind of dizzy seething in the birds : afterwards it comes to pass that, when they have fallen right into the sources of the poison, there they must needs vomit forth their life as well, because there is great store of poison all around them.

Similarly these spots give out an exhalation, which first stops the birds, and then kills them when they fall.

It may happen, too, sometimes that this force and effluence of Avernus dispels all the air that is situate between the birds and the ground, so that there is left here an almost empty space. And when the birds in their flight have come straight over this place, on a sudden the lifting force of their pinions is crippled and useless, and all the effort of their wings fails on either side. And then, when they cannot support themselves or rest upon their wings, of course nature constrains them to sink by their weight to the ground, and lying in death in what is now almost empty void, they scatter abroad their soul through all the pores of their body

It may be that the effluence dispels the air, and so the birds fall in a vacuum.

.¹

moreover, the water in wells becomes colder in summer, 6. Wells are

¹ A considerable passage is lost, in which the poet passed to a quite new subject.

cold in summer, because earth gives out its heat into the air, and warm in winter, because it sends its heat into the wells. The fountain of Ammon grows cold in the day and warm at night for exactly similar reasons,

because the earth grows porous with the heat, and if by chance it has any seeds of heat of its own, it sends them abroad into the air. The more then earth is exhausted of its heat, the colder too becomes the moisture which is hidden in the earth. Moreover, when all the earth is hard pressed with cold, and contracts and, as it were, congeals, of course it comes to pass that, as it contracts, it squeezes out into the wells any heat it bears in itself.

There is said to be near the shrine of Ammonⁿ a fountain, cold in the daylight and warm in the night time. At this fountain men marvel overmuch, and think that it is made to boil in haste by the fierceness of the sun beneath the earth, when night has shrouded earth in dreadful darkness. But this is exceeding far removed from true reasoning. For verily, when the sun, touching the uncovered body of the water, could not make it warm on the upper side, though its light in the upper air enjoys heat so great, how could it beneath the earth with its body so dense boil the water and fill it with warm heat? and that when it can scarcely with its blazing rays make its hot effluence pierce through the walls of houses. What then is the reason? We may be sure, because the ground is rarer and warmer around the fountain than the rest of the earth, and there are many seeds of fire near the body of the water. Therefore, when night covers the earth with the shadows that bring the dew, straightway the earth grows cold deep within and contracts. By this means it comes to pass that, as though it were pressed by the hand, it squeezes out into the fountain all the seeds of fire it has, which make warm the touch and vapour of the water. Then when the rising sun has parted

asunder the ground with his rays, and has made it rarer, as his warm heat grows stronger, the first-beginnings of fire pass back again into their old abode, and all the heat of the water retires into the earth. For this cause the fountain becomes cold in the light of day. Moreover, the moisture of the water is buffeted by the sun's rays, and in the light grows rarer through the throbbing heat; therefore it comes to pass that it loses all the seeds of fire that it has; just as often it gives out the frost that it contains in itself, and melts the ice and loosens its bindings.

There is also a cold spring, over which if tow be held, it often straightway catches fire and casts out a flame, and a torch in like manner is kindled and shines over the waters, wherever, as it floats, it is driven by the breezes. Because, we may be sure, there are in the water very many seeds of heat, and it must needs be that from the very earth at the bottom bodies of fire rise up through the whole spring, and at the same time are breathed forth and issue into the air, yet not so many of them that the spring can be made hot. Moreover, a force constrains them suddenly to burst forth through the water scattered singly, and then to enter into union up above. Even as there is a spring within the sea at Aradus,ⁿ which bubbles up with fresh water and parts the salt waters asunder all around it; and in many other spots too the level sea affords a welcome help to thirsty sailors, because amid the salt it vomits forth fresh water. So then those seeds are able to burst out through that spring, and to bubble out into the tow; and when they gather together or cling to the body of the torch, readily they blaze out all

also be-
cause the
sun's heat
breaks up
the waters
and releases
the heat in
them.

The cold
spring, over
which
torches
catch fire,
owes its
power to
seeds of
fire, which
shoot up
separately
through
the water
and unite in
flame on
the torch.
It is like
springs of
fresh water
in the sea.

Observe how the wick catches before it touches the flame.

at once, because the tow and torches too have many seeds of hidden fire in themselves. Do you not see too, when you move a wick just extinguished near a night-lamp, that it is kindled before it has touched the flame, and a torch in like manner? And many other things as well are touched first by the mere heat and blaze out at a distance, before the fire soaks them close at hand. This then we must suppose comes to pass in that spring too.

7. The magnet, and how it holds its chain of rings suspended.

For what follows, I will essay to tell by what law of nature it comes to pass that iron can be attracted by the stone which the Greeks call the magnet, from the name of its native place, because it has its origin within the boundaries of its native country, the land of the Magnetes. At this stone men marvel; indeed, it often makes a chain of rings all hanging to itself. For sometimes you may see five or more in a hanging chain, and swaying in the light breezes, when one hangs on to the other, clinging to it beneath, and each from the next comes to feel the binding force of the stone: in such penetrating fashion does its force prevail.

Much must be pre-mised.

In things of this kind much must be made certain before you can give account of the thing itself, and you must approach by a circuit exceeding long: therefore all the more I ask for attentive ears and mind.

(a) From all things bodies are always streaming off, which arouse our senses.

First of all from all things, whatsoever we can see, it must needs be that there stream off, shot out and scattered abroad, bodies such as to strike the eyes and awake our vision. And from certain things scents stream off unceasingly; even as cold streams from rivers, heat from the sun, spray from the waves of the sea, which gnaws away the walls by the seashore. Nor do diverse sounds cease to ooze through the air. Again, moisture of

a salt savour often comes into our mouth, when we walk by the sea, and on the other hand, when we behold worm-wood being diluted and mixed, a bitter taste touches it. So surely from all things each several thing is carried off in a stream, and is sent abroad to every quarter on all sides, nor is any delay or respite granted in this flux, since we perceive unceasingly, and we are suffered always to descry and smell all things, and to hear them sound.

Now I will tell over again of how rarefied a body all things are ; which is clearly shown in the beginning of my poem too.¹ For verily, although it is of great matter to learn this for many things, it is above all necessary for this very thing, about which I am essaying to discourse, to make it sure that there is nothing perceptible except body mingled with void. First of all it comes to pass that in caves the upper rocks sweat with moisture and drip with trickling drops. Likewise sweat oozes out from all our body, the beard grows and hairs over all our limbs and members, food is spread abroad into all the veins, yea, it increases and nourishes even the extreme parts of the body, and the tiny nails. We feel cold likewise pass through bronze and warm heat, we feel it likewise pass through gold and through silver, when we hold full cups in our hands. Again voices fly through stone partitions in houses, smell penetrates and cold and the heat of fire, which is wont to pierce too through the strength of iron. Again, where the breastplate of the sky¹ closes in the world all around (the bodies of clouds and the seeds of storms enter in), and with them the force of disease, when it finds its way in from without ; and tempests, gathering

(b) The bodies of all things are porous ;

e. g. rocks,

the human body,

metals,

walls,

even the circumference of the world.

¹ The MS. reading *caeli lorica* is probably quite right, and a line is lost, of which this, as Giussani suggests, was probably the sense.

from earth and heaven, hasten naturally to remote parts of heaven and earth; since there is nothing but has a rare texture of body.

(c) These effluences affect different things differently: e. g. sunlight may melt or harden.

There is this besides, that not all bodies, which are thrown off severally from things, are endowed with the same effect of sense, nor suited in the same way to all things. First of all the sun bakes the ground and parches it, but ice it thaws and causes the snows piled high on the high mountains to melt beneath its rays. Again, wax becomes liquid when placed in the sun's heat. Fire likewise makes bronze liquid and fuses gold, but skins and flesh it shrivels and draws all together. Moreover, the moisture of water hardens iron fresh from the fire, but skins and flesh it softens, when hardened in the heat.

The wild olive is good to goats, loathsome to us. Pigs hate marjoram, and we loathe mud.

The wild olive as much delights the bearded she-goats, as though it breathed out a flavour steeped in ambrosia and real nectar; and yet for a man there is no leafy plant more bitter than this for food. Again, the pig shuns marjoram, and fears every kind of ointment; for to bristling pigs it is deadly poison, though to us it sometimes seems almost to give new life. But on the other hand, though to us mud is the foulest filth, this very thing is seen to be pleasant to pigs, so that they wallow all over in it and never have enough.

(d) The pores and passages in things differ, and let different things pass through them.

This too remains, which it is clear should be said, before I start to speak of the thing itself. Since many pores are assigned to diverse things, they must needs be endowed with a nature differing from one another, and have each their own nature and passages. For verily there are diverse senses in living creatures, each of which in its own way takes in its own object within itself. For we see that

sounds pass into one place and the taste from savours into another, and to another the scent of smells. Moreover, one thing is seen to pierce through rocks, another through wood, and another to pass through gold, and yet another to make its way out from silver and glass. For through the one vision is seen to stream, though the other heat to travel, and one thing is seen to force its way along the same path quicker than others. We may know that the nature of the passages causes this to come to pass, since it varies in many ways, as we have shown a little before on account of the unlike nature and texture of things.

Wherefore, when all these things have been surely established and settled for us, laid down in advance and ready for use, for what remains, from them we shall easily give account, and the whole cause will be laid bare, which attracts the force of iron. First of all it must needs beⁿ that there stream off this stone very many seeds or an effluence, which, with its blows, parts asunder all the air which has its place between the stone and the iron. When this space is emptied and much room in the middle becomes void, straightway first-beginnings of the iron start forward and fall into the void, all joined together; it comes to pass that the ring itself follows and advances in this way, with its whole body. Nor is anything so closely interlaced in its first particles, all clinging linked together, as the nature of strong iron and its cold roughness. Therefore it is the less strange, since it is led on by its particles, that it is impossible for many bodies, springing together from the iron, to pass into the void, but that the ring itself follows; and this it does, and follows on, until it has now reached the very stone and clung to it with hidden fastenings. This same thing takes place in every

We can now turn to the magnet.

It sends off particles which beat aside the air in front and make a vacuum; into this the atoms of the iron rush, and because they are very closely linked together, they draw the whole ring with them.

This may happen in any direction.

Further, the air behind the ring pushes it towards the vacuum, where there is no air to beat it back.

The air inside the iron also pushes in the same direction.

When brass is interposed, the magnet repels iron, because the

direction;¹ on whichever side room becomes void, whether athwart or above, the neighbouring bodies are carried at once into the void. For indeed they are set in motion by blows from the other side, nor can they themselves of their own accord rise upwards into the air. To this there is added, that it may the more be able to come to pass, this further thing as an aid, yea, the motion is helped, because, as soon as the air in front of the ring is made rarer, and the place becomes more empty and void, it straight-way comes to pass that all the air which has its place behind, drives, as it were, and pushes the ring forward. For the air which is set all around is for ever buffeting things; but it comes to pass that at times like this it pushes the iron forward, because on one side there is empty space, which receives the ring into itself. This air, of which I am telling you, finds its way in subtly through the countless pores of the iron right to its tiny parts, and thrusts and drives it on, as wind drives ship and sails. Again, all things must have air in their body seeing that they are of rare body, and the air is placed round and set close against all things. This air then, which is hidden away deep within the iron, is ever tossed about with restless motion, and therefore without doubt it buffets the ring and stirs it within; the ring, we may be sure, is carried towards the same side to which it has once moved headlong, struggling hard towards the empty spot.

It comes to pass, too, that the nature of iron retreats from this stone at times, and is wont to flee and follow turn by turn. Further, I have seen Samothracian iron rings even leap up, and at the same time iron filings move

¹ Place; after *partes* and , after *superne*.

in a frenzy inside brass bowls, when this Magnesian stone was placed beneath :✓so eagerly is the iron seen to desire to flee from the stone. When the brass is placed between, so great a disturbance is brought about because, we may be sure, when the effluence of the brass has seized beforehand and occupied the open passages in the iron, afterwards comes the effluence of the stone, and finds all full in the iron, nor has it a path by which it may stream through as before. And so it is constrained to dash against it and beat with its wave upon the iron texture ; and in this way it repels it from itself, and through the brass drives away that which without it it often sucks in.

Herein refrain from wondering that the effluence from this stone has not the power to drive other things in the same way. For in part they stand still by the force of their own weight, as for instance, gold ; and partly, because they are of such rare body, that the effluence flies through untouched, they cannot be driven anywhere ; among this kind is seen to be the substance of wood. The nature of iron then has its place between the two, and when it has taken in certain tiny bodies of brass, then it comes to pass that the Magnesian stones drive it on with their stream.

And yet these powers are not so alien to other things that I have only a scanty store of things of this kind, of which I can tell—things fitted just for each other and for naught besides. First you see that stones are stuck together only by mortar. Wood is united only by bulls' glue, so that the veins of boards more often gape than the bindings of the glue will loosen their hold. The juice born of the grape is willing to mingle with streams of water, though heavy pitch and light olive-oil refuse.

effluence from the brass has already filled up the pores in the iron.

The magnet cannot move other things because they are either too heavy or too rare in texture.

There are other cases of things with a peculiar affinity and binding power : stones and mortar, wood and glue, wine and water,

dye and
wool,

And the purple tint of the shellfish is united only with the body of wool, yet so that it cannot be separated at all, no, not if you were to be at pains to restore it with Neptune's wave, no, nor if the whole sea should strive to wash it out with all its waves. Again, is not there one thing only that binds gold to gold? is it not true that brass is joined to brass only by white lead? How many other cases might we find! What then? You have no need at all of long rambling roads, nor is it fitting that I should spend so much pains on this, but 'tis best shortly in a few words to include many cases. Those things, whose textures fall so aptly one upon the other that hollows fit solids, each in the one and the other, make the best joining. Sometimes, too, they may be held linked with one another, as it were, fastened by rings and hooks; as is seen to be more the case with this stone and the iron.

brass and
white lead.

Whenever
shapes fit
mutually,
a strong
joining
results.

8. Plague
and disease.

When the
seeds of
harmful
things
gather in
the sky,
they
pollute it.
They may
come from
outside the
world or
from the
earth.

So travelers
are affected

Now what is the law of plagues, and from what cause on a sudden the force of disease can arise and gather deadly destruction for the race of men and the herds of cattle, I will unfold. First I have shown before that there are seeds of many things which are helpful to our life, and on the other hand it must needs be that many fly about which cause disease and death. And when by chance they have happened to gather and distemper the sky, then the air becomes full of disease. And all that force of disease and pestilence either comes from without the world through the sky above, as do clouds and mists, or else often it gathers and rises up from the earth itself, when, full of moisture, it has contracted foulness, smitten by unseasonable rains or suns. Do you not see, too, that those who journey far from their home and

country are assailed by the strangeness of the climate by a strange climate, and the water, just because things are far different? For what a difference may we suppose there is between the climate the Britons know and that which is in Egypt, where the axis of the world slants crippled; ⁿ what difference between the climate in Pontus and at Gades, and so right on to the black races of men with their sunburnt colour? And as we see these four climates at the four winds and quarters of the sky thus diverse one from the other, so the colour and face of the men are seen to vary greatly, and diseases too to attack the diverse races each after their kind. There is the elephant disease, which arises along the streams of the Nile in mid Egypt, and in no other place. In Attica the feet are assailed, and the eyes in the Achaean country. And so each place is harmful to different parts and limbs: the varying air is the cause. Wherefore, when an atmosphere, which chances to be noxious to us, sets itself in motion, and harmful air begins to creep forward, just as cloud and mist crawls on little by little and distempers all, wherever it advances, and brings about change, it comes to pass also, that when at last it comes to our sky, it corrupts it and makes it like itself, and noxious to us. And so this strange destruction and pestilence suddenly falls upon the waters or settles even on the crops or on other food of men or fodder of the flocks; or else this force remains poised in the air itself, and, when we draw in these mingled airs as we breathe, it must needs be that we suck in these plagues with them into our body. In like manner the pestilence falls too often on the cattle, and sickness also on the lazy bleating sheep. Nor does it matter whether we pass into spots hostile to us and change the ves-

and differences of climate cause differences of appearance in races, and produce special diseases.

If then a noxious atmosphere moves and comes to us,

pestilence results for man and beast.

ture of the sky, or whether nature attacking us brings a corrupt sky¹ upon us, or something which we are not accustomed to feel, which can assail us by its first coming.

Such was the plague at Athens, which came from Egypt.

Symptoms and causes of the disease.

Such a cause of plague,ⁿ such a deadly influence, once in the country of Cecrops filled the fields with dead and emptied the streets, draining the city of its citizens. For it arose deep within the country of Egypt, and came, traversing much sky and floating fields, and brooded at last over all the people of Pandion. Then troop by troop they were given over to disease and death. First of all they felt the head burning with heat, and both eyes red with a glare shot over them. The throat, too, blackened inside, would sweat with blood, and the path of the voice was blocked and choked with ulcers, and the tongue, the mind's spokesman, would ooze with gore, weakened with pain, heavy in movement, rough to touch. Then, when through the throat the force of disease had filled the breast and had streamed on right into the pained heart of the sick, then indeed all the fastnesses of life were loosened. Their breath rolled out a noisome smell from the mouth, like the stench of rotting carcasses thrown out of doors. And straightway all the strength of the mind and the whole body grew faint, as though now on the very threshold of death. And aching anguish went ever in the train of their unbearable suffering, and lamentation, mingled with sobbing. And a constant retching, ever and again, by night and day, would constrain them continually to spasms in sinews and limbs, and would utterly

¹ The MS. text involves an impossible false quantity, but this must be the sense: possibly, as Housman suggests, the order of the words is wrong.

break them down, wearing them out, full weary before. And yet in none could you see the topmost skin on the surface of the body burning with exceeding heat, but rather the body offered a lukewarm touch to the hands and at the same time all was red as though with the scar of ulcers, as it is when the holy fire spreads through the limbs. But the inward parts of the men were burning to the bones, a flame was burning within the stomach as in a furnace. There was nothing light or thin that you could apply to the limbs of any to do him good, but ever only wind and cold. Some would cast their limbs, burn-
 ing with disease, into the icy streams, hurling their naked Attempted remedies. body into the waters. Many leapt headlong deep into the waters of wells, reaching the water with their very mouth agape: a parching thirst, that knew no slaking, soaking their bodies, made a great draught no better than a few drops. Nor was there any respite from suffering; their bodies lay there foredone. The healers' art muttered low in silent fear, when indeed again and again they would turn on them their eyes burning with disease and reft of sleep. And many more signs of death were Accompanying symptoms of the mind, &c. afforded then: the understanding of the mind distraught with pain and panic, the gloomy brow, the fierce frenzied face, and the ears too plagued and beset with noises, the breath quickened or drawn rarely and very deep, and the wet sweat glistening dank over the neck, the spittle thin and tiny, tainted with a tinge of yellow and salt, scarcely brought up through the throat with a hoarse cough. Then in the hands the sinews ceased not to contract and the limbs to tremble, and cold to come up little by little from the feet. Likewise, even till the last moment, the nostrils were pinched, and the tip of

Length of
disease.

Subsequent
fate of
those who
escaped.

Unburied
bodies
avoided
by bird
and beast.

the nose sharp and thin, the eyes hollowed, the temples sunk, the skin cold and hard, a grin on the set face, the forehead tense and swollen. And not long afterwards the limbs would lie stretched stiff in death. And usually on the eighth day of the shining sunlight, or else beneath his ninth torch, they would yield up their life. And if any of them even so had avoided the doom of death, yet afterwards wasting and death would await him with noisome ulcers, and a black flux from the bowels, or else often with aching head a flow of tainted blood would pour from his choked nostrils: into this would stream all the strength and the body of the man. Or again, when a man had escaped this fierce outpouring of corrupt blood, yet the disease would make its way into his sinews and limbs, and even into the very organs of his body. And some in heavy fear of the threshold of death would live on, bereft of these parts by the knife, and not a few lingered in life without hands or feet and some lost their eyes. So firmly had the sharp fear of death got hold on them. On some, too, forgetfulness of all things seized, so that they could not even know themselves. And though bodies piled on bodies lay in numbers unburied on the ground, yet the race of birds and wild beasts either would range far away, to escape the bitter stench, or, when they had tasted, would fall drooping in quick-coming death. And indeed in those days hardly would any bird appear at all, nor would the gloomy race of wild beasts issue from the woods. Full many would droop in disease and die. More than all the faithful strength of dogs, fighting hard, would lay down their lives, strewn about every street; for the power of disease would wrest

the life from their limbs. Funerals deserted, unattended, were hurried on almost in rivalry. Nor was any sure kind of remedy afforded for all alike; for that which had granted to one strength to breathe in his mouth the life-giving breezes of air, and to gaze upon the quarters of the sky, was destruction to others, and made death ready for them. And herein was one thing pitiful and exceeding full of anguish, that as each man saw himself caught in the toils of the plague, so that he was condemned to death, losing courage he would lie with grieving heart; looking for death to come he would breathe out his spirit straightway. For indeed, at no time would the contagion of the greedy plague cease to lay hold on one after the other, as though they were woolly flocks or horned herds. And this above all heaped death on death. For all who shunned to visit their own sick, over-greedy of life and fearful of death, were punished a while afterwards by slaughtering neglect with a death hard and shameful, abandoned and reft of help. But those who had stayed near at hand would die by contagion and the toil, which shame would then constrain them to undergo, and the appealing voice of the weary, mingled with the voice of complaining. And so all the nobler among them suffered this manner of death¹ and one upon others, as they vied in burying the crowd of their dead: worn out with weeping and wailing they would return; and the greater part would take to their bed from grief. Nor could one man be found, whom at this awful season neither disease touched nor death nor mourning.

Lack of remedies.

Despair.

Fate of those who avoided the sick,

and of those who tended them.

Burials.

Moreover, by now the shepherd and every herdsman,

¹ Some lines of connexion seem to be lost here.

The plague
in the
country.

The
countrymen
flock into
the town
and increase
the disease.

Dead in
the streets
and public
places,

and
temples.

Horrors of
burial.

and likewise the sturdy steersman of the curving plough, would fall drooping, and their bodies would lie thrust together into the recess of a hut, given over to death by poverty and disease. On lifeless children you might often have seen the lifeless bodies of parents, and again, children breathing out their life upon mothers and fathers. And in no small degree that affliction streamed from the fields into the city, brought by the drooping crowd of countrymen coming together diseased from every quarter. They would fill all places, all houses; and so all the more, packed in stifling heat, death piled them up in heaps. Many bodies, laid low by thirst and rolled forward through the streets, lay strewn at the fountains of water, the breath of life shut off from them by the exceeding delight of the water, and many in full view throughout the public places and the streets you might have seen, their limbs drooping on their half-dead body, filthy with stench and covered with rags, dying through the foulness of their body, only skin on bones, wellnigh buried already in noisome ulcers and dirt. Again, death had filled all the sacred shrines of the gods with lifeless bodies, and all the temples of the heavenly ones remained everywhere cumbered with carcasses; for these places the guardians had filled with guests. For indeed by now the religion of the gods and their godhead was not counted for much: the grief of the moment overwhelmed it all. Nor did the old rites of burial continue in the city, with which aforetime this people had ever been wont to be buried; for the whole people was disordered and in panic, and every man sorrowing buried his dead, laid out as best he could. And to many things the sudden

calamity and filthy poverty prompted men. For with great clamouring they would place their own kin on the high-piled pyres of others, and set the torches to them, often wrangling with much bloodshed, rather than abandon the bodies.

DISCOURSE

ON THE

METHOD OF RIGHTLY CONDUCTING THE REASON, AND SEEKING TRUTH IN THE SCIENCES

BY

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PUBLISHERS' PREFACE.

DESCARTES' *Discourse on Method* was published in Leyden, in 1637, and was accompanied by three brief tracts as appendices: the *Geometry*, the *Meteorics*, and the *Dioptrics*.

The *Discourse on Method* was Descartes' intellectual confession of faith, his statement of his own peculiar method of reaching the Truth; the appendices were his documents of justification, specimens of the *actual* Truth that he had reached by his method. And splendid specimens they were: the invention of analytical geometry, which literally unshackled mathematical research; the researches in the theory of equations and algebraical symbolism; the enunciation of the law of the refraction of light, which is the beginning of the development of modern optics; the partial explanation of the rainbow; and so forth. All these achievements, far as they may seem from the common life, are shot through the warp and woof of our technical civilisation, and our entire spiritual and material existence bears their hidden impress.

Whether our calling, therefore, be that of a philosopher or not, and whatever be our attitude to the problems involved, the contemplation of the methods by which such unique results have been reached is of the highest concern. No one can fail to draw a most bountiful stimulus from these pages. Their freshness and independence of view, their wholesome common sense, their self-reliance, their apotheosis of Reason, are, when we consider the state of mind of the period in which they were written, almost unequalled in history. Here was an absolute break with the authority of tradition, an utter rejection of the past, an utter contempt of books, of the graces of literature and of erudition; while in their place were substituted the ideals of radical doubt, implacable critique, unerring certainty. Truth was no longer a "plurality of suffrages," the utterance of an Aristotle or a Pope; it was

the outcome of right thinking and right seeing, the privilege of every man. The appeal throughout was made to "the great book of the world," to experiment, to observation. "Here is my library," said Descartes to an inquirer, as he pointed to a quartered calf he was busy dissecting.

Such an attitude would be impossible now; the present age has a real past of science behind it. But it was necessary then; the past which lay directly behind Descartes, with a few bright exceptions like Bruno and Campanella, was a past of slavish submission to authority, both in action and in thought; and the utter demolition of this past was the self-chosen task of the great recluse-philosopher, who believed he had stript himself of every clog that the heritage of antiquity had placed upon man's intellect.

And here lies both the virtue and defect of his system. Descartes was primarily a mathematician. He found in mathematics, as did Kant and Comte, the type of all faultless thought—not in the traditional mathematics as such, but in mathematics as regenerated and inspirited by his own epoch-making discoveries. The geometrical analysis of Plato and the ancients was, at best, a haphazard procedure, depending almost entirely on the insight and skill of the manipulator, concerned for the logic rather than for the power of the method, and yielding in almost all cases isolated results, not general and comprehensive truths. But the method of Descartes was an engine of research; it reduced geometry largely to algebra; of the science of the eye it made a science of the mind; from a part it deduced a whole; for the rich exuberance of natural forms it substituted the economy and precision of a purely logical mechanism. Was he not justified, therefore, in pointing with pride to the maxims and rules by which his mediocre talents, as he termed them, had been enabled to advance the truth so powerfully? He was on the verge of a universal Mathematical Science, why was it not possible to construct a Universal Formal Science, manipulable with the same mechanical precision, and applicable to physics, chemistry, cosmology, biology, psychology, and theology? Why was it not possible to deduce God, man, and society from a few simple fundamental truths, as the properties of a curve were developable from an algebraical equation?

Hence resulted the Cartesian physics and metaphysics, half

child of the science that he vaunted, half child of the dead tradition that he detested ; for he had not stript himself entirely of the past. That is possible for no man.

Descartes stopped at Faith. His metaphysics was a rationalised theology, in which everything was merged in God,—a theistic monism. His psychology, his theory of the soul, were dualistic. Yet, despite their crudeness from the modern view, they were an advance, and despite their author's seeming submissiveness to the teachings of the Church, they were placed with his other doctrines on the Index. The very search for a "criterion of truth" was sufficient to condemn his system.

But there was, in this action of the Church, a presage of the disintegrating character of the new doctrines. Descartes' physics practically nullified his theology, but he was careful not to give offence. With the fate of Bruno, Campanella, and Galileo before his eyes, he naturally felt, as a recent writer expresses it, "no vocation for martyrdom." Nonetheless he pushed his mechanicalism to the extreme, and carried it to the very throne of his God, engulfing all nature and all life. With motion and extension alone, supported by the laws of geometry, he constructed the Universe. The construction was largely *a priori* and was in defiance of the experimental principles that he so highly lauded, and in contradiction to the real mechanics that Galileo had just discovered and which Descartes mistook, but it contained most of the theoretical elements of the modern mechanical explanation of nature, and its main hypotheses, as the theory of vortices, the uniform constitution of matter, etc., have persisted to this day. His ideas were, thus, more powerful than even his own application of them, and in the hands of his successors led to the undermining of the very Faith which, from prudence or conviction, he himself had desired to leave untouched.

His system, even now, as shattered by modern research, and in its ruins, with the towers of its real achievements projecting aloft, presents a magnificent spectacle, daring in its scope and execution. The defects of its construction are to be measured by the standard of its time, not by the standard which through its assistance succeeding centuries have been enabled to establish. If it appears repellent in its aspect, harsh in its rigor, it must be re-

membered that it came from a man to whom "there was no beauty but the beauty of truth," and to whom the natural severity of science was the proudest adornment of civilisation, and redounded most surely to the enhancement of real, practical life.

➤ Descartes, it has been said, is the cross-roads from which the modern paths of thought diverge. He was the forerunner of Newton and Leibnitz on the one hand, and of Hume and Kant on the other. The picture presented in this book, of his mental autobiography, is one of the most pleasing chapters of the history of philosophy. It belongs to the world, from the great heart of which it sprung, free from the mustiness of the study; and its candor and manliness of view cannot, even now when most of it has become commonplace, and some of it antiquated, fail to arouse the apathy of a people who are hungering for enlightenment.

To make it more accessible to the people, is our purpose in re-publishing it. The translation is by the late Dr. Veitch, of the University of Glasgow, whose representatives have authorised the reprint, and to whose Introduction in the volume published by Blackwoods we may refer the student for a detailed analysis of Descartes' philosophy. A more general treatment will be found in Lévy-Bruhl's new *History of Modern Philosophy in France*.* For further literature the reader is referred to the Bibliography at the end of the text.

THOMAS J. McCORMACK.

LA SALLE, ILLS., August, 1899.

* The Open Court Publishing Company, Chicago. London: Kegan Paul Trench, Trübner & Co. 1899.

NOTE.

Since the appearance of the first edition of this reprint, Veitch's translation of Descartes's *Meditations on the First Philosophy* has also been published in the present series of Philosophical Classics. The same volume also contains translations of parts of the *Principles of Philosophy*, and of part of Descartes's Reply to the *Second Objections*, and is prefaced by Lévy-Bruhl's essay on Descartes's Philosophy.

[PREFATORY NOTE BY THE AUTHOR.]

IF this Discourse appear too long to be read at once, it may be divided into six parts: and, in the first, will be found various considerations touching the Sciences; in the second, the principal rules of the Method which the Author has discovered; in the third, certain of the rules of Morals which he has deduced from this Method; in the fourth, the reasonings by which he establishes the existence of God and of the Human Soul, which are the foundations of his Metaphysic, in the fifth, the order of the Physical questions which he has investigated, and, in particular, the explication of the motion of the heart and of some other difficulties pertaining to Medicine, as also the difference between the soul of man and that of the brutes; and, in the last, what the Author believes to be required in order to greater advancement in the investigation of Nature than has yet been made, with the reasons that have induced him to write.



Discourse on Method.



PART I.

GOOD SENSE is, of all things among men, the most equally distributed; for every one thinks himself so abundantly provided with it, that those even who are the most difficult to satisfy in everything else, do not usually desire a larger measure of this quality than they already possess. And in this it is not likely that all are mistaken: the conviction is rather to be held as testifying that the power of judging aright and of distinguishing Truth from Error, which is properly what is called Good Sense or Reason, is by nature equal in all men; and that the diversity of our opinions, consequently, does not arise from some being endowed with a larger share of Reason than others, but solely from this, that we conduct our thoughts along different ways, and do not fix our attention on the same objects. For to be possessed of a vigorous mind is not enough; the prime requisite is rightly to apply it. } The greatest minds, as they are capable of the highest excellencies, are open likewise to the greatest aberrations.

tions; and those who travel very slowly may yet make far greater progress, provided they keep always to the straight road, than those who, while they run, forsake it.

X For myself, I have never fancied my mind to be in any respect more perfect than those of the generality; on the contrary, I have often wished that I were equal to some others in promptitude of thought, or in clearness and distinctness of imagination, or in fulness and readiness of memory. And besides these, I know of no other qualities that contribute to the perfection of the mind; for as to the Reason or Sense, inasmuch as it is that alone which constitutes us men, and distinguishes us from the brutes, I am disposed to believe that it is to be found complete in each individual; and on this point to adopt the common opinion of philosophers, who say that the difference of greater and less holds only among the *accidents*, and not among the *forms* or *natures* of *individuals* of the same *species*.

✓ I will not hesitate, however, to avow my belief that it has been my singular good fortune to have very early in life fallen in with certain tracks which have conducted me to considerations and maxims, of which I have formed a Method that gives me the means, as I think, of gradually augmenting my knowledge, and of raising it by little and little to the highest point which the mediocrity of my talents and the brief duration of my life will permit me to reach. For I have already reaped from it such fruits that, although I have been accustomed to think lowly enough of myself, and although when I look with

the eye of a philosopher at the varied courses and pursuits of mankind at large, I find scarcely one which does not appear vain and useless, I nevertheless derive the highest satisfaction from the progress I conceive myself to have already made in the search after truth, and cannot help entertaining such expectations of the future as to believe that if, among the occupations of men as men, there is any one really excellent and important, it is that which I have chosen.

After all, it is possible I may be mistaken; and it is but a little copper and glass, perhaps, that I take for gold and diamonds. I know how very liable we are to delusion in what relates to ourselves, and also how much the judgments of our friends are to be suspected when given in our favour. But I shall endeavour in this Discourse to describe the paths I have followed, and to delineate my life as in a picture, in order that each one may be able to judge of them for himself, and that in the general opinion entertained of them, as gathered from current report, I myself may have a new help towards instruction to be added to those I have been in the habit of employing.

My present design, then, is not to teach the Method which each ought to follow for the right conduct of his reason, but solely to describe the way in which I have endeavoured to conduct my own. They who set themselves to give precepts must of course regard themselves as possessed of greater skill than those to whom they prescribe; and if they err in the slightest particular, they subject them-

selves to censure. But as this Tract is put forth merely as a history, or, if you will, as a tale, in which, amid some examples worthy of imitation, there will be found, perhaps, as many more which it were advisable not to follow, I hope it will prove useful to some without being hurtful to any, and that my openness will find some favour with all.

From my childhood, I have been familiar with letters; and as I was given to believe that by their help a clear and certain knowledge of all that is useful in life might be acquired, I was ardently desirous of instruction. But as soon as I had finished the entire course of study, at the close of which it is customary to be admitted into the order of the learned, I completely changed my opinion. For I found myself involved in so many doubts and errors, that I was convinced I had advanced no farther in all my attempts at learning, than the discovery at every turn of my own ignorance. And yet I was studying in one of the most celebrated Schools in Europe, in which I thought there must be learned men, if such were anywhere to be found. I had been taught all that others learned there; and not contented with the sciences actually taught us, I had, in addition, read all the books that had fallen into my hands, treating of such branches as are esteemed the most curious and rare. I knew the judgment which others had formed of me; and I did not find that I was considered inferior to my fellows, although there were among them some who were already marked out to fill the places of our instructors. And, in fine, our age appeared to me

as flourishing, and as fertile in powerful minds as any preceding one. I was thus led to take the liberty of judging of all other men by myself, and of concluding that there was no science in existence that was of such a nature as I had previously been given to believe.

I still continued, however, to hold in esteem the studies of the Schools. I was aware that the Languages taught in them are necessary to the understanding of the writings of the ancients; that the grace of Fable stirs the mind; that the memorable deeds of History elevate it; and, if read with discretion, aid in forming the judgment; that the perusal of all excellent books is, as it were, to interview with the noblest men of past ages, who have written them, and even a studied interview, in which are discovered to us only their choicest thoughts; that Eloquence has incomparable force and beauty; that Poesy has its ravishing graces and delights; that in the Mathematics there are many refined discoveries eminently suited to gratify the inquisitive, as well as further all the arts and lessen the labour of man; that numerous highly useful precepts and exhortations to virtue are contained in treatises on Morals; that Theology points out the path to heaven; that Philosophy affords the means of discoursing with an appearance of truth on all matters, and commands the admiration of the more simple; that Jurisprudence, Medicine, and the other Sciences, secure for their cultivators honours and riches; and, in fine, that it is useful to bestow some attention upon all, even upon those abounding the

most in superstition and error, that we may be in a position to determine their real value, and guard against being deceived.

But I believed that I had already given sufficient time to Languages, and likewise to the reading of the writings of the ancients, to their Histories and Fables.) For to hold converse with those of other ages and to travel, are almost the same thing. It is useful to know something of the manners of different nations, that we may be able to form a more correct judgment regarding our own, and be prevented from thinking that everything contrary to our customs is ridiculous and irrational,—a conclusion usually come to by those whose experience has been limited to their own country. On the other hand, when too much time is occupied in travelling, we become strangers to our native country; and the over curious in the customs of the past are generally ignorant of those of the present. Besides, fictitious narratives lead us to imagine the possibility of many events that are impossible; and even the most faithful histories, if they do not wholly misrepresent matters, or exaggerate their importance to render the account of them more worthy of perusal, omit, at least, almost always the meanest and least striking of the attendant circumstances; hence it happens that the remainder does not represent the truth, and that such as regulate their conduct by examples drawn from this source, are apt to fall into the extravagances of the knight-errants of Romance, and to entertain projects that exceed their powers.

I esteemed Eloquence highly, and was in raptures with Poesy; but I thought that both were gifts of nature rather than fruits of study. Those in whom the faculty of Reason is predominant, and who most skilfully dispose their thoughts with a view to render them clear and intelligible, are always the best able to persuade others of the truth of what they lay down, though they should speak only in the language of Lower Brittany, and be wholly ignorant of the rules of Rhetoric; and those whose minds are stored with the most agreeable fancies, and who can give expression to them with the greatest embellishment and harmony, are still the best poets, though unacquainted with the Art of Poetry.

I was especially delighted with the Mathematics, on account of the certitude and evidence of their reasonings: but I had not as yet a precise knowledge of their true use; and thinking that they but contributed to the advancement of the mechanical arts, I was astonished that foundations, so strong and solid, should have had no loftier superstructure reared on them. On the other hand, I compared the disquisitions of the ancient Moralists to very towering and magnificent palaces with no better foundation than sand and mud: they laud the virtues very highly, and exhibit them as estimable far above anything on earth; but they give us no adequate criterion of virtue, and frequently that which they designate with so fine a name is but apathy, or pride, or despair, or parricide.

I revered our Theology, and aspired as much as any one to reach heaven: but being given assuredly

to understand that the way is not less open to the most ignorant than to the most learned, and that the revealed truths which lead to heaven are above our comprehension, I did not presume to subject them to the impotency of my Reason; and I thought that in order competently to undertake their examination, there was need of some special help from heaven, and of being more than man.

Of Philosophy I will say nothing, except that when I saw that it had been cultivated for many ages by the most distinguished men, and that yet there is not a single matter within its sphere which is not still in dispute, and nothing, therefore, which is above doubt, I did not presume to anticipate that my success would be greater in it than that of others; and further, when I considered the number of conflicting opinions touching a single matter that may be upheld by learned men, while there can be but one true, I reckoned as well-nigh false all that was only probable.

As to the other Sciences, inasmuch as these borrow their principles from Philosophy, I judged that no solid superstructures could be reared on foundations so infirm) and neither the honour nor the gain held out by them was sufficient to determine me to their cultivation: for I was not, thank heaven, in a condition which compelled me to make merchandise of Science for the bettering of my fortune; and though I might not profess to scorn glory as a Cynic, I yet made very slight account of that honour which I hoped to acquire only through fictitious titles. And, in fine, of false Sciences I thought I

knew the worth sufficiently to escape being deceived by the professions of an alchemist, the predictions of an astrologer, the impostures of a magician, or by the artifices and boasting of any of those who profess to know things of which they are ignorant.

For these reasons, as soon as my age permitted me to pass from under the control of my instructors, I entirely abandoned the study of letters, and resolved no longer to seek any other science than the knowledge of myself, or of the great book of the world. I spent the remainder of my youth in travelling, in visiting courts and armies, in holding intercourse with men of different dispositions and ranks, in collecting varied experience, in proving myself in the different situations into which fortune threw me, and, above all, in making such reflection on the matter of my experience as to secure my improvement. For it occurred to me that I should find much more truth in the reasonings of each individual with reference to the affairs in which he is personally interested, and the issue of which must presently punish him if he has judged amiss, than in those conducted by a man of letters in his study, regarding speculative matters that are of no practical moment, and followed by no consequences to himself, farther, perhaps, than that they foster his vanity the better the more remote they are from common sense; requiring, as they must in this case, the exercise of greater ingenuity and art to render them probable. In addition, I had always a most earnest desire to know how to distinguish the true from the false, in order that I might be able clearly

Practical matters

to discriminate the right path in life, and proceed in it with confidence.

It is true that, while busied only in considering the manners of other men, I found here, too, scarce any ground for settled conviction, and remarked hardly less contradiction among them than in the opinions of the philosophers. So that the greatest advantage I derived from the study consisted in this, that, observing many things which, however extravagant and ridiculous to our apprehension, are yet by common consent received and approved by other great nations, I learned to entertain too 4 decided a belief in regard to nothing of the truth of which I had been persuaded merely by example and custom: and thus I gradually extricated myself from many errors powerful enough to darken our Natural Intelligence, and incapacitate us in great measure from listening to Reason. But after I had been occupied several years in thus studying the book of the world, and in essaying to gather some experience, I at length resolved to make myself an object of study, and to employ all the powers of my mind in choosing the paths I ought to follow; an undertaking which was accompanied with greater success than it would have been had I never quitted my country or my books.

PART II.

I WAS then in Germany, attracted thither by the wars in that country, which have not yet been brought to a termination; and as I was returning to the army from the coronation of the Emperor, the setting in of winter arrested me in a locality where, as I found no society to interest me, and was besides fortunately undisturbed by any cares or passions, I remained the whole day in seclusion,* with full opportunity to occupy my attention with my own thoughts. Of these one of the very first that occurred to me was, that there is seldom so much perfection in works composed of many separate parts, upon which different hands have been employed, as in those completed by a single master. Thus it is observable that the buildings which a single architect has planned and executed, are generally more elegant and commodious than those which several have attempted to improve, by making old walls serve for purposes for which they were not originally built. Thus also, those ancient cities which, from being at first only villages, have become, in course of time, large towns, are usually but ill laid out compared with the regularly constructed towns which a professional architect has

* Literally, in a room heated by means of a stove.—*Tr.*

freely planned on an open plain; so that although the several buildings of the former may often equal or surpass in beauty those of the latter, yet when one observes their indiscriminate juxtaposition, there a large one and here a small, and the consequent crookedness and irregularity of the streets, one is disposed to allege that chance rather than any human will guided by reason, must have led to such an arrangement. And if we consider that nevertheless there have been at all times certain officers whose duty it was to see that private buildings contributed to public ornament, the difficulty of reaching high perfection with but the materials of others to operate on, will be readily acknowledged. In the same way I fancied that those nations which, starting from a semi-barbarous state and advancing to civilisation by slow degrees, have had their laws successively determined, and, as it were, forced upon them simply by experience of the hurtfulness of particular crimes and disputes, would by this process come to be possessed of less perfect institutions than those which, from the commencement of their association as communities, have followed the appointments of some wise legislator. It is thus quite certain that the constitution of the true religion, the ordinances of which are derived from God, must be incomparably superior to that of every other. And, to speak of human affairs, I believe that the past pre-eminence of Sparta was due not to the goodness of each of its laws in particular, for many of these were very strange, and even opposed to good morals, but to the circumstance that, orig-

inated by a single individual, they all tended to a single end. In the same way I thought that the sciences contained in books, (such of them at least as are made up of probable reasonings, without demonstrations,) composed as they are of the opinions of many different individuals massed together, are farther removed from truth than the simple inferences which a man of good sense using his natural and unprejudiced judgment draws respecting the matters of his experience. And because we have all to pass through a state of infancy to manhood, and have been of necessity, for a length of time, governed by our desires and preceptors, (whose dictates were frequently conflicting, while neither perhaps always counselled us for the best,) I further concluded that it is almost impossible that our judgments can be so correct or solid as they would have been, had our Reason been mature from the moment of our birth, and had we always been guided by it alone.

It is true, however, that it is not customary to pull down all the houses of a town with the single design of rebuilding them differently, and thereby rendering the streets more handsome; but it often happens that a private individual takes down his own with the view of erecting it anew, and that people are even sometimes constrained to this when their houses are in danger of falling from age, or when the foundations are insecure. With this before me by way of example, I was persuaded that it would indeed be preposterous for a private individual to think of reforming a state by funda-

mentally changing it throughout, and overturning it in order to set it up amended; and the same I thought was true of any similar project for reforming the body of the Sciences, or the order of teaching them established in the Schools: but as for the opinions which up to that time I had embraced, I thought that I could not do better than resolve at once to sweep them wholly away, that I might afterwards be in a position to admit either others more correct, or even perhaps the same when they had undergone the scrutiny of Reason. I firmly believed that in this way I should much better succeed in the conduct of my life, than if I built only upon old foundations, and leant upon principles which, in my youth, I had taken upon trust. For although I recognised various difficulties in this undertaking, these were not, however, without remedy, nor once to be compared with such as attend the slightest reformation in public affairs. Large bodies, if once overthrown, are with great difficulty set up again, or even kept erect when once seriously shaken, and the fall of such is always disastrous. Then if there are any imperfections in the constitutions of states, (and that many such exist the diversity of constitutions is alone sufficient to assure us,) custom has without doubt materially smoothed their inconveniences, and has even managed to steer altogether clear of, or insensibly corrected a number which sagacity could not have provided against with equal effect; and, in fine, the defects are almost always more tolerable than the change necessary for their removal; in the same



4 requisite for orderly and circumspect thinking; whence it happens, that if men of this class once take the liberty to doubt of their accustomed opinions, and quit the beaten highway, they will never be able to thread the byeway that would lead them by a shorter course, and will lose themselves and continue to wander for life; in the second place, of those who, possessed of sufficient sense or modesty to determine that there are others who excel them in the power of discriminating between truth and error, and by whom they may be instructed, ought rather to content themselves with the opinions of such than trust for more correct to their own Reason.

4
? For my own part, I should doubtless have belonged to the latter class, had I received instruction from but one master, or had I never known the diversities of opinion that from time immemorial have prevailed among men of the greatest learning. But I had become aware, even so early as during my college life, that no opinion, however absurd and incredible, can be imagined, which has not been maintained by some one of the philosophers; and afterwards in the course of my travels I remarked that all those whose opinions are decidedly repugnant to ours are not on that account barbarians and savages, but on the contrary that many of these nations make an equally good, if not a better, use of their Reason than we do. I took into account also the very different character which a person brought up from infancy in France or Germany exhibits, from that which, with the same mind originally, this individual would have

possessed had he lived always among the Chinese or with savages, and the circumstance that in dress itself the fashion which pleased us ten years ago, and which may again, perhaps, be received into favour before ten years have gone, appears to us at this moment extravagant and ridiculous. I was thus led to infer that the ground of our opinions is far more custom and example than any certain knowledge. And, finally, although such be the ground of our opinions, I remarked that a plurality of suffrages is no guarantee of truth where it is at all of difficult discovery, as in such cases it is much more likely that it will be found by one than by many. I could, however, select from the crowd no one whose opinions seemed worthy of preference, and thus I found myself constrained, as it were, to use my own Reason in the conduct of my life.

But like one walking alone and in the dark, I resolved to proceed so slowly and with such circumspection, that if I did not advance far, I would at least guard against falling. I did not even choose to dismiss summarily any of the opinions that had crept into my belief without having been introduced by Reason, but first of all took sufficient time carefully to satisfy myself of the general nature of the task I was setting myself, and ascertain the true Method by which to arrive at the knowledge of whatever lay within the compass of my powers.

Among the branches of Philosophy, I had, at an earlier period, given some attention to Logic, and among those of the Mathematics to Geometrical Analysis and Algebra,—three arts or Sciences

which ought, as I conceived, to contribute something to my design. / But, on examination, I found that, as for Logic, its syllogisms and the majority of its other precepts are of avail rather in the communication of what we already know, or even as the Art of Lully, in speaking without judgment of things of which we are ignorant, than in the investigation of the unknown; and although this Science contains indeed a number of correct and very excellent precepts, there are, nevertheless, so many others, and these either injurious or superfluous, mingled with the former, that it is almost quite as difficult to effect a severance of the true from the false as it is to extract a Diana or a Minerva from a rough block of marble. / Then as to the Analysis of the ancients and the Algebra of the moderns, besides that they embrace only matters, highly abstract, and, to appearance, of no use, the former is so exclusively restricted to the consideration of figures, that it can exercise the Understanding only on condition of greatly fatiguing the Imagination;* and, in the latter, there is so complete a subjection to certain rules and formulas, that there results an art full of confusion and obscurity calculated to embarrass, instead of a science fitted to cultivate the mind. (By these considerations I was induced to seek some other Method which would comprise the advantages of the three and be exempt from their defects. And as a multitude of laws often only hampers justice, so that a state is best governed

*The imagination must here be taken as equivalent simply to the Representative Faculty.—Tr.

when, with few laws, these are rigidly administered; in like manner, instead of the great number of precepts of which Logic is composed, I believed that the four following would prove perfectly sufficient for me, provided I took the firm and unwavering resolution never in a single instance to fail in observing them.

The *first* was never to accept anything for true which I did not clearly know to be such; that is to say, carefully to avoid precipitancy and prejudice, and to comprise nothing more in my judgment than what was presented to my mind so clearly and distinctly as to exclude all ground of doubt.

The *second*, to divide each of the difficulties under examination into as many parts as possible, and as might be necessary for its adequate solution.

The *third*, to conduct my thoughts in such order that, by commencing with objects the simplest and easiest to know, I might ascend by little and little, and, as it were, step by step, to the knowledge of the more complex; assigning in thought a certain order even to those objects which in their own nature do not stand in a relation of antecedence and sequence.

And the *last*, in every case to make enumerations so complete, and reviews so general, that I might be assured that nothing was omitted.

The long chains of simple and easy reasonings by means of which geometers are accustomed to reach the conclusions of their most difficult demonstrations, had led me to imagine that all things, to the knowledge of which man is competent, are mutually

connected in the same way, and that there is nothing so far removed from us as to be beyond our reach, or so hidden that we cannot discover it, provided only we abstain from accepting the false for the true, and always preserve in our thoughts the order necessary for the deduction of one truth from another.] And I had little difficulty in determining the objects with which it was necessary to commence, for I was already persuaded that it must be with the simplest and easiest to know, and, considering that of all those who have hitherto sought truth in the Sciences, the mathematicians alone have been able to find any demonstrations, that is, any certain and evident reasons, I did not doubt but that such must have been the rule of their investigations. I resolved to commence, therefore, with the examination of the simplest objects, not anticipating, however, from this any other advantage than that to be found in accustoming my mind to the love and nourishment of truth, and to a distaste for all such reasonings as were unsound. But I had no intention on that account of attempting to master all the particular Sciences commonly denominated Mathematics: but observing that, however different, their objects, they all agree in considering only the various relations or proportions subsisting among those objects, I thought it best for my purpose to consider these proportions in the most general form possible, without referring them to any objects in particular, except such as would most facilitate the knowledge of them, and without by any means restricting them to these, that afterwards I might

thus be the better able to apply them to every other class of objects to which they are legitimately applicable. Perceiving further, that in order to understand these relations I should sometimes have to consider them one by one, and sometimes only to bear them in mind, or embrace them in the aggregate, I thought that, in order the better to consider them individually, I should view them as subsisting between straight lines, than which I could find no objects more simple, or capable of being more distinctly represented to my imagination and senses; and on the other hand, that in order to retain them in the memory, or embrace an aggregate of many, I should express them by certain characters the briefest possible. In this way I believed that I could borrow all that was best both in Geometrical Analysis and in Algebra, and correct all the defects of the one by help of the other.

And, in point of fact, the accurate observance of these few precepts gave me, I take the liberty of saying, such ease in unravelling all the questions embraced in these two sciences, that in the two or three months I devoted to their examination, not only did I reach solutions of questions I had formerly deemed exceedingly difficult, but even as regards questions of the solution of which I continued ignorant, I was enabled, as it appeared to me, to determine the means whereby, and the extent to which, a solution was possible; results attributable to the circumstance that I commenced with the simplest and most general truths, and that thus each truth discovered was a rule available in the dis-

covery of subsequent ones. Nor in this perhaps shall I appear too vain, if it be considered that, as the truth on any particular point is one, whoever apprehends the truth, knows all that on that point can be known. The child, for example, who has been instructed in the elements of Arithmetic, and has made a particular addition, according to rule, may be assured that he has found, with respect to the sum of the numbers before him, all that in this instance is within the reach of human genius. Now, in conclusion, the Method which teaches adherence to the true order, and an exact enumeration of all the conditions of the thing sought, includes all that gives certitude to the rules of Arithmetic.

But the chief ground of my satisfaction with this Method, was the assurance I had of thereby exercising my reason in all matters, if not with absolute perfection, at least with the greatest attainable by me: besides, I was conscious that by its use my mind was becoming gradually habituated to clearer and more distinct conceptions of its objects; and I hoped, also, from not having restricted this Method to any particular matter, to apply it to the difficulties of the other Sciences, with not less success than to those of Algebra. I should not, however, on this account have ventured at once on the examination of all the difficulties of the Sciences which presented themselves to me, for this would have been contrary to the order prescribed in the Method, but observing that the knowledge of such is dependent on principles borrowed from Philosophy, in which I found nothing certain, I thought it

necessary first of all to endeavour to establish its principles. And because I observed, besides, that an inquiry of this kind was of all others of the greatest moment, and one in which precipitancy and anticipation in judgment were most to be dreaded, I thought that I ought not to approach it till I had reached a more mature age, (being at that time but twenty-three,) and had first of all employed much of my time in preparation for the work, as well by eradicating from my mind all the erroneous opinions I had up to that moment accepted, as by amassing variety of experience to afford materials for my reasonings, and by continually exercising myself in my chosen Method with a view to increased skill in its application.

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PART III.

✓ AND, finally, as it is not enough, before commencing to rebuild the house in which we live, that it be pulled down, and materials and builders provided, or that we engage in the work ourselves, according to a plan which we have beforehand carefully drawn out, but as it is likewise necessary that we be furnished with some other house in which we may live commodiously during the operations, so that I might not remain irresolute in my actions, while my Reason compelled me to suspend my judgment, and that I might not be prevented from living thenceforward in the greatest possible felicity, I formed a provisory code of Morals, composed of three or four maxims, with which I am desirous to make you acquainted.

H ✓ The *first* was to obey the laws and customs of my country, adhering firmly to the Faith in which, by the grace of God, I had been educated from my childhood, and regulating my conduct in every other matter according to the most moderate opinions, and the farthest removed from extremes, which should happen to be adopted in practice with general consent of the most judicious of those among whom I might be living. For, as I had from that time begun to hold my own opinions for nought, because I wished to subject them all to examina-

tion, I was convinced that I could not do better than follow in the meantime the opinions of the most judicious; and although there are some perhaps among the Persians and Chinese as judicious as among ourselves, expediency seemed to dictate that I should regulate my practice conformably to the opinions of those with whom I should have to live; and it appeared to me that, in order to ascertain the real opinions of such, I ought rather to take cognizance of what they practised than of what they said, not only because, in the corruption of our manners, there are few disposed to speak exactly as they believe, but also because very many are not aware of what it is that they really believe; for, as the act of mind by which a thing is believed is different from that by which we know that we believe it, the one act is often found without the other. Also, amid many opinions held in equal repute, I chose always the most moderate, as much for the reason that these are always the most convenient for practice, and probably the best, (for all excess is generally vicious,) as that, in the event of my falling into error, I might be at less distance from the truth than if, having chosen one of the extremes, it should turn out to be the other which I ought to have adopted. And I placed in the class of extremes especially all promises by which somewhat of our freedom is abridged; not that I disapproved of the laws which, to provide against the instability of men of feeble resolution, when what is sought to be accomplished is some good, permit engagements by vows and contracts binding the

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parties to persevere in it, or even, for the security of commerce, sanction similar engagements where the purpose sought to be realized is indifferent: but because I did not find anything on earth which was wholly superior to change, and because, for myself in particular, I hoped gradually to perfect my judgments, and not to suffer them to deteriorate, I would have deemed it a grave sin against good sense, if, for the reason that I approved of something at a particular time, I therefore bound myself to hold it for good at a subsequent time, when perhaps it had ceased to be so, or I had ceased to esteem it such.

My *second* maxim was to be as firm and resolute in my actions as I was able, and not to adhere less steadfastly to the most doubtful opinions, when once adopted, than if they had been highly certain; imitating in this the example of travellers who, when they have lost their way in a forest, ought not to wander from side to side, far less remain in one place, but proceed constantly towards the same side in as straight a line as possible, without changing their direction for slight reasons, although perhaps it might be chance alone which at first determined the selection; for in this way, if they do not exactly reach the point they desire, they will come at least in the end to some place that will probably be preferable to the middle of a forest. In the same way, since in action it frequently happens that no delay is permissible, it is very certain that, when it is not in our power to determine what is true, we ought to act according to what is most

probable; and even although we should not remark a greater probability in one opinion than in another, we ought notwithstanding to choose one or the other, and afterwards consider it, in so far as it relates to practice, as no longer dubious, but manifestly true and certain, since the reason by which our choice has been determined is itself possessed of these qualities. This principle was sufficient thenceforward to rid me of all those repentings and pangs of remorse that usually disturb the consciences of such feeble and uncertain minds as, destitute of any clear and determinate principle of choice, allow themselves one day to adopt a course of action as the best, which they abandon the next, as the opposite.

✓ My *third* maxim was to endeavour always to conquer myself rather than fortune, and change my desires rather than the order of the world, and in general, accustom myself to the persuasion that, except our own thoughts, there is nothing absolutely in our power; so that when we have done our best in respect of things external to us, all wherein we fail of success is to be held, as regards us, absolutely impossible: and this single principle seemed to me sufficient to prevent me from desiring for the future anything which I could not obtain, and thus render me contented; for since our will naturally seeks those objects alone which the understanding represents as in some way possible of attainment, it is plain, that if we consider all external goods as equally beyond our power, we shall no more regret the absence of such goods as seem due to our birth, when deprived of them without any fault of ours,

than our not possessing the kingdoms of China or Mexico; and thus making, so to speak, a virtue of necessity, we shall no more desire health in disease, or freedom in imprisonment, than we now do bodies incorruptible as diamonds, or the wings of birds to fly with. But I confess there is need of prolonged discipline and frequently repeated meditation to accustom the mind to view all objects in this light; and I believe that in this chiefly consisted the secret of the power of such philosophers as in former times were enabled to rise superior to the influence of fortune, and, amid suffering and poverty, enjoy a happiness which their gods might have envied. For, occupied incessantly with the consideration of the limits prescribed to their power by nature, they became so entirely convinced that nothing was at their disposal except their own thoughts, that this conviction was of itself sufficient to prevent their entertaining any desire of other objects; and over their thoughts they acquired a sway so absolute, that they had some ground on this account for esteeming themselves more rich and more powerful, more free and more happy, than other men who, whatever be the favours heaped on them by nature and fortune, if destitute of this philosophy, can never command the realization of all their desires.

In fine, to conclude this code of Morals, I thought of reviewing the different occupations of men in this life, with the view of making choice of the best. And, without wishing to offer any remarks on the employments of others, I may state that it was my

conviction that I could not do better than continue in that in which I was engaged, viz., in devoting my whole life to the culture of my Reason, and in making the greatest progress I was able in the knowledge of truth, on the principles of the Method which I had prescribed to myself. This Method, from the time I had begun to apply it, had been to me the source of satisfaction so intense as to lead me to believe that more perfect or more innocent could not be enjoyed in this life; and as by its means I daily discovered truths that appeared to me of some importance, and of which other men were generally ignorant, the gratification thence arising so occupied my mind that I was wholly indifferent to every other object. Besides, the three preceding maxims were founded singly on the design of continuing the work of self-instruction. For since God has endowed each of us with some Light of Reason by which to distinguish truth from error, I could not have believed that I ought for a single moment to rest satisfied with the opinions of another, unless I had resolved to exercise my own judgment in examining these whenever I should be duly qualified for the task. Nor could I have proceeded on such opinions without scruple, had I supposed that I should thereby forfeit any advantage for attaining still more accurate, should such exist. And, in fine, I could not have restrained my desires, nor remained satisfied, had I not followed a path in which I thought myself certain of attaining all the knowledge to the acquisition of which I was competent, as well as the largest amount of what is truly

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good which I could ever hope to secure. Inasmuch as we neither seek nor shun any object except in so far as our understanding represents it as good or bad, all that is necessary to right action is right judgment, and to the best action the most correct judgment,—that is, to the acquisition of all the virtues with all else that is truly valuable and within our reach; and the assurance of such an acquisition cannot fail to render us contented. ✓

Having thus provided myself with these maxims, and having placed them in reserve along with the truths of Faith, which have ever occupied the first place in my belief, I came to the conclusion that I might with freedom set about ridding myself of what remained of my opinions. And, inasmuch as I hoped to be better able successfully to accomplish this work by holding intercourse with mankind, than by remaining longer shut up in the retirement where these thoughts had occurred to me, I betook me again to travelling before the winter was well ended. And, during the nine subsequent years, I did nothing but roam from one place to another, desirous of being a spectator rather than an actor in the plays exhibited on the theatre of the world; and, as I made it my business in each matter to reflect particularly upon what might fairly be doubted and prove a source of error, I gradually rooted out from my mind all the errors which had hitherto crept into it. Not that in this I imitated the Sceptics who doubt only that they may doubt, and seek nothing beyond uncertainty itself; for, on the contrary, my design was singly to find ground

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of assurance, and cast aside the loose earth and sand, that I might reach the rock or the clay. In this, as appears to me, I was successful enough; for, since I endeavoured to discover the falsehood or incertitude of the propositions I examined, not by feeble conjectures, but by clear and certain reasonings, I met with nothing so doubtful as not to yield some conclusion of adequate certainty, although this were merely the inference, that the matter in question contained nothing certain. And, just as in pulling down an old house, we usually reserve the ruins to contribute towards the erection, so, in destroying such of my opinions as I judged to be ill-founded, I made a variety of observations and acquired an amount of experience of which I availed myself in the establishment of more certain. And further; I continued to exercise myself in the Method I have prescribed; for, besides taking care in general to conduct all my thoughts according to its rules, I reserved some hours from time to time which I expressly devoted to the employment of the Method in the solution of Mathematical difficulties, or even in the solution likewise of some questions belonging to other Sciences, but which, by my having detached them from such principles of these Sciences as were of inadequate certainty, were rendered almost Mathematical: the truth of this will be manifest from the numerous examples contained in this volume.* And thus, without in appearance living otherwise than those who, with no other

* The Discourse on Method was originally published along with the Dioptrics, the Meteorics, and the Geometry.—*Tr.*

occupation than that of spending their lives agreeably and innocently, study to sever pleasure from vice, and who, that they may enjoy their leisure without ennui, have recourse to such pursuits as are honourable, I was nevertheless prosecuting my design, and making greater progress in the knowledge of truth, than I might, perhaps, have made had I been engaged in the perusal of books merely, or in holding converse with men of letters.

These nine years passed away, however, before I had come to any determinate judgment respecting the difficulties which form matter of dispute among the learned, or had commenced to seek the principles of any Philosophy more certain than the vulgar. And the examples of many men of the highest genius, who had, in former times, engaged in this inquiry, but, as appeared to me, without success, led me to imagine it to be a work of so much difficulty, that I would not perhaps have ventured on it so soon had I not heard it currently rumoured that I had already completed the inquiry. I know not what were the grounds of this opinion; and, if my conversation contributed in any measure to its rise, this must have happened rather from my having confessed my ignorance with greater freedom than those are accustomed to do who have studied a little, and expounded, perhaps, the reasons that led me to doubt of many of those things that by others are esteemed certain, than from my having boasted of any system of Philosophy. But, as I am of a disposition that makes me unwilling to be esteemed different from what I really am, I thought

it necessary to endeavour by all means to render myself worthy of the reputation accorded to me, and it is now exactly eight years since this desire constrained me to remove from all those places where interruption from any of my acquaintances was possible, and betake myself to this country,* in which the long duration of the war has led to the establishment of such discipline, that the armies maintained seem to be of use only in enabling the inhabitants to enjoy more securely the blessings of peace; and where, in the midst of a great crowd actively engaged in business, and more careful of their own affairs than curious about those of others, I have been enabled to live without being deprived of any of the conveniences to be had in the most populous cities, and yet as solitary and as retired as in the midst of the most remote deserts.

* Holland; to which country he withdrew in 1629.—*Tr.*

PART IV.

I AM in doubt as to the propriety of making my first meditations in the place above mentioned matter of discourse; for these are so metaphysical, and so uncommon, as not, perhaps, to be acceptable to every one. And yet, that it may be determined whether the foundations that I have laid are sufficiently secure, I find myself in a measure constrained to advert to them. I had long before remarked that, in relation to practice, it is sometimes necessary to adopt, as if above doubt, opinions which we discern to be highly uncertain, as has been already said; but as I then desired to give my attention solely to the search after truth, I thought that a procedure exactly the opposite was called for, and that I ought to reject as absolutely false all opinions in regard to which I could suppose the least ground for doubt, in order to ascertain whether after that there remained aught in my belief that was wholly indubitable. Accordingly, seeing that our senses sometimes deceive us, I was willing to suppose that there existed nothing really such as they presented to us; and because some men err in reasoning, and fall into paralogisms, even on the simplest matters of Geometry, I, convinced that I was as open to error as any other,

rejected as false all the reasonings I had hitherto taken for demonstrations; and finally, when I considered that the very same thoughts (presentations) which we experience when awake may also be experienced when we are asleep, while there is at that time not one of them true, I supposed that all the objects (presentations) that had ever entered into my mind when awake, had in them no more truth than the illusions of my dreams. But immediately upon this I observed that, whilst I thus wished to think that all was false, it was absolutely necessary that I, who thus thought, should be somewhat; and as I observed that this truth, *I think, hence I am*, was so certain and of such evidence, that no ground of doubt, however extravagant, could be alleged by the Sceptics capable of shaking it, I concluded that I might, without scruple, accept it as the first principle of the Philosophy of which I was in search.

In the next place, I attentively examined what I was, and as I observed that I could suppose that I had no body, and that there was no world nor any place in which I might be; but that I could not therefore suppose that I was not; and that, on the contrary, from the very circumstance that I thought to doubt of the truth of other things, it most clearly and certainly followed that I was; while, on the other hand, if I had only ceased to think, although all the other objects which I had ever imagined had been in reality existent, I would have had no reason to believe that I existed; I thence concluded that I was a substance whose whole essence or nature

consists only in thinking, and which, that it may exist, has need of no place, nor is dependent on any material thing; so that "I," that is to say, the mind by which I am what I am, is wholly distinct from the body, and is even more easily known than the latter, and is such, that although the latter were not, it would still continue to be all that it is.

After this I inquired in general into what is essential to the truth and certainty of a proposition; for since I had discovered one which I knew to be true, I thought that I must likewise be able to discover the ground of this certitude. And as I observed that in the words *I think, hence I am*, there is nothing at all which gives me assurance of their truth beyond this, that I see very clearly that in order to think it is necessary to exist, I concluded that I might take; as a general rule, the principle, that all the things which we very clearly and distinctly conceive are true, only observing, however, that there is some difficulty in rightly determining the objects which we distinctly conceive.

In the next place, from reflecting on the circumstance that I doubted, and that consequently my being was not wholly perfect, (for I clearly saw that it was a greater perfection to know than to doubt,) I was led to inquire whence I had learned to think of something more perfect than myself; and I clearly recognised that I must hold this notion from some Nature which in reality was more perfect. As for the thoughts of many other objects external to me, as of the sky, the earth, light, heat, and a thousand more, I was less at a loss to know whence these


came; for since I remarked in them nothing which seemed to render them superior to myself, I could believe that, if these were true, they were dependencies on my own nature; in so far as it possessed a certain perfection, and, if they were false, that I held them from nothing, that is to say, that they were in me because of a certain imperfection of my nature. But this could not be the case with the idea of a Nature more perfect than myself; for to receive it from nothing was a thing manifestly impossible; and, because it is not less repugnant that the more perfect should be an effect of, and dependence on the less perfect, than that something should proceed from nothing, it was equally impossible that I could hold it from myself: accordingly, it but remained that it had been placed in me by a Nature which was in reality more perfect than mine, and which even possessed within itself all the perfections of which I could form any idea; that is to say, in a single word, which was God. And to this I added that, since I knew some perfections which I did not possess, I was not the only being in existence, (I will here, with your permission, freely use the terms of the schools); but, on the contrary, that there was of necessity some other more perfect Being upon whom I was dependent, and from whom I had received all that I possessed; for if I had existed alone, and independently of every other being, so as to have had from myself all the perfection, however little, which I actually possessed, I should have been able, for the same reason, to have had from myself the whole remainder of perfection,

of the want of which I was conscious, and thus could of myself have become infinite, eternal, immutable, omniscient, all-powerful, and, in fine, have possessed all the perfections which I could recognise in God. For in order to know the nature of God, (whose existence has been established by the preceding reasonings,) as far as my own nature permitted, I had only to consider in reference to all the properties of which I found in my mind some idea, whether their possession was a mark of perfection; and I was assured that no one which indicated any imperfection was in him, and that none of the rest was wanting. Thus I perceived that doubt, inconstancy, sadness, and such like, could not be found in God, since I myself would have been happy to be free from them. Besides, I had ideas of many sensible and corporeal things; for although I might suppose that I was dreaming, and that all which I saw or imagined was false, I could not, nevertheless, deny, that the ideas were in reality in my thoughts. But, because I had already very clearly recognised in myself that the intelligent nature is distinct from the corporeal, and as I observed that all composition is an evidence of dependency, and that a state of dependency is manifestly a state of imperfection, I therefore determined that it could not be a perfection in God to be compounded of these two natures, and that consequently he was not so compounded; but that if there were any bodies in the world, or even any intelligences, or other natures that were not wholly perfect, their existence depended on his power in such a way that

they could not subsist without him for a single moment.

○ I was disposed straightway to search for other truths; and when I had represented to myself the object of the geometers, which I conceived to be a continuous body, or a space indefinitely extended in length, breadth, and height or depth, divisible into divers parts which admit of different figures and sizes, and of being moved or transposed in all manner of ways, (for all this the geometers suppose to be in the object they contemplate,) I went over some of their simplest demonstrations. And, in the first place, I observed, that the great certitude which by common consent is accorded to these demonstrations, is founded solely upon this, that they are clearly conceived in accordance with the rules I have already laid down. In the next place, I perceived that there was nothing at all in these demonstrations which could assure me of the existence of their object: thus, for example, supposing a triangle to be given, I distinctly perceived that its three angles were necessarily equal to two right angles, but I did not on that account perceive anything which could assure me that any triangle existed; while, on the contrary, recurring to the examination of the idea of a Perfect Being, I found that the existence of the Being was comprised in the idea in the same way that the equality of its three angles to two right angles is comprised in the idea of a triangle, or as in the idea of a sphere, the equidistance of all points on its surface from the centre, or even still more clearly; and that conse-

quently it is at least as certain that God, who is this Perfect Being, is, or exists; as any demonstration of Geometry can be.

But the reason which leads many to persuade themselves that there is a difficulty in knowing this truth, and even also in knowing what their mind really is, is that they never raise their thoughts above sensible objects, and are so accustomed to consider nothing except by way of imagination, which is a mode of thinking limited to material objects, that all that is not imaginable seems to them not intelligible. The truth of this is sufficiently manifest from the single circumstance, that the philosophers of the Schools accept as a maxim that there is nothing in the Understanding which was not previously in the Senses, in which however it is certain that the ideas of God and of the soul have never been; and it appears to me that they who make use of their imagination to comprehend these ideas do exactly the same thing as if, in order to hear sounds or smell odours, they strove to avail themselves of their eyes; unless indeed that there is this difference, that the sense of sight does not afford us an inferior assurance to those of smell or hearing; in place of which, neither our imagination nor our senses can give us assurance of anything unless our Understanding intervene. 

Finally, if there be still persons who are not sufficiently persuaded of the existence of God and of the soul, by the reasons I have adduced, I am desirous that they should know that all the other propositions, of the truth of which they deem themselves

perhaps more assured, as that we have a body, and that there exist stars and an earth, and such like, are less certain; for, although we have a moral assurance of these things, which is so strong that there is an appearance of extravagance in doubting of their existence, yet at the same time no one, unless his intellect is impaired, can deny, when the question relates to a metaphysical certitude, that there is sufficient reason to exclude entire assurance, in the observation that when asleep we can in the same way imagine ourselves possessed of another body and that we see other stars and another earth, when there is nothing of the kind. For how do we know that the thoughts which occur in dreaming are false rather than those other which we experience when awake, since the former are often not less vivid and distinct than the latter? ✓
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And though men of the highest genius study this question as long as they please, I do not believe that they will be able to give any reason which can be sufficient to remove this doubt, unless they presuppose the existence of God. For, in the first place, even the principle which I have already taken as a rule, viz., that all the things which we clearly and distinctly conceive are true, is certain only because God is or exists, and because he is a Perfect Being, and because all that we possess is derived from him: whence it follows that our ideas or notions, which to the extent of their clearness and distinctness are real, and proceed from God, must to that extent be true. Accordingly, whereas we not unfrequently have ideas or notions in which some +

falsity is contained, this can only be the case with such as are to some extent confused and obscure, and in this proceed from nothing, (participate of negation,) that is, exist in us thus confused because we are not wholly perfect. And it is evident that it is not less repugnant that falsity or imperfection, in so far as it is imperfection, should proceed from God, than that truth or perfection should proceed from nothing. But if we did not know that all which we possess of real and true proceeds from a Perfect and Infinite Being, however clear and distinct our ideas might be, we should have no ground on that account for the assurance that they possessed the perfection of being true.]

But after the knowledge of God and of the soul has rendered us certain of this rule, we can easily understand that the truth of the thoughts we experience when awake, ought not in the slightest degree to be called in question on account of the illusions of our dreams. For if it happened that an individual, even when asleep, had some very distinct idea, as, for example, if a geometer should discover some new demonstration, the circumstance of his being asleep would not militate against its truth; and as for the most ordinary error of our dreams, which consists in their representing various objects in the same way as our external senses, this is not prejudicial, since it leads us very properly to suspect the truth of the ideas of sense; for we are not unfrequently deceived in the same manner when awake; as when persons in the jaundice see all objects yellow, or when the stars or

bodies at a great distance appear to us much smaller than they are. [For, in fine, whether awake or asleep, we ought never to allow ourselves to be persuaded of the truth of anything unless on the evidence of our Reason. And it must be noted that I say of our *Reason*, and not of our imagination or of our senses: thus, for example, although we very clearly see the sun, we ought not therefore to determine that it is only of the size which our sense of sight presents; and we may very distinctly imagine the head of a lion joined to the body of a goat, without being therefore shut up to the conclusion that a chimæra exists; for it is not a dictate of Reason that what we thus see or imagine is in reality existent; but it plainly tells us that all our ideas or notions contain in them some truth; for otherwise it could not be that God, who is wholly perfect and veracious, should have placed them in us. And because our reasonings are never so clear or so complete during sleep as when we are awake, although sometimes the acts of our imagination are then as lively and distinct, if not more so than in our waking moments, Reason further dictates that, since all our thoughts cannot be true because of our partial imperfection, those possessing truth must infallibly be found in the experience of our waking moments rather than in that of our dreams.

PART V.

I WOULD here willingly have proceeded to exhibit the whole chain of truths which I deduced from these primary; but as with a view to this it would have been necessary now to treat of many questions in dispute among the learned, with whom I do not wish to be embroiled, I believe that it will be better for me to refrain from this exposition, and only mention in general what these truths are, that the more judicious may be able to determine whether a more special account of them would conduce to the public advantage. I have ever remained firm in my original resolution to suppose no other principle than that of which I have recently availed myself in demonstrating the existence of God and of the soul, and to accept as true nothing that did not appear to me more clear and certain than the demonstrations of the geometers had formerly appeared; and yet I venture to state that not only have I found means to satisfy myself in a short time on all the principal difficulties which are usually treated of in Philosophy, but I have also observed certain laws established in nature by God in such a manner, and of which he has impressed on our minds such notions, that after we have reflected sufficiently upon these, we cannot doubt that they are accurately observed

in all that exists or takes place in the world: and farther, by considering the concatenation of these laws, it appears to me that I have discovered many truths more useful and more important than all I had before learned, or even had expected to learn. ✓

✓ But because I have essayed to expound the chief of these discoveries in a Treatise which certain considerations prevent me from publishing, I cannot make the results known more conveniently than by here giving a summary of the contents of this Treatise. It was my design to comprise in it all that, before I set myself to write it, I thought I knew of the nature of material objects. But like the painters who, finding themselves unable to represent equally well on a plain surface all the different faces of a solid body, select one of the chief, on which alone they make the light fall, and throwing the rest into the shade, allow them to appear only in so far as they can be seen while looking at the principal one; so, fearing lest I should not be able to comprise in my discourse all that was in my mind, I resolved to expound singly, though at considerable length, my opinions regarding light; then to take the opportunity of adding something on the sun and the fixed stars, since light almost wholly proceeds from them; on the heavens, since they transmit it; on the planets, comets, and earth, since they reflect it; and particularly on all the bodies that are upon the earth, since they are either coloured, or transparent, or luminous; and finally on man, since he is the spectator of these objects. Further, to enable me to cast this variety of subjects somewhat into the

shade, and to express my judgment regarding them with greater freedom, without being necessitated to adopt or refute the opinions of the learned, I resolved to leave all the people here to their disputes, and to speak only of what would happen in a new world, if God were now to create somewhere in the imaginary spaces matter sufficient to compose one, and were to agitate variously and confusedly the different parts of this matter, so that there resulted a chaos as disordered as the poets ever feigned, and after that did nothing more than lend his ordinary concurrence to nature, and allow her to act in accordance with the laws which he had established. On this supposition, I, in the first place, described this matter, and essayed to represent it in such a manner that to my mind there can be nothing clearer and more intelligible, except what has been recently said regarding God and the soul; for I even expressly supposed that it possessed none of those forms or qualities which are so debated in the Schools, nor in general anything the knowledge of which is not so natural to our minds that no one can so much as imagine himself ignorant of it. Besides, I have pointed out what are the laws of nature; and, with no other principle upon which to found my reasonings except the infinite perfection of God, I endeavoured to demonstrate all those about which there could be any room for doubt, and to prove that they are such, that even if God had created more worlds, there could have been none in which these laws were not observed. Thereafter, I showed how the greatest part of the matter of this chaos must, in

accordance with these laws, dispose and arrange itself in such a way as to present the appearance of heavens; how in the meantime some of its parts must compose an earth and some planets and comets, and others a sun and fixed stars. And, making a digression at this stage on the subject of light, I expounded at considerable length what the nature of that light must be which is found in the sun and the stars, and how thence in an instant of time it traverses the immense spaces of the heavens, and how from the planets and comets it is reflected towards the earth. To this I likewise added much respecting the substance, the situation, the motions, and all the different qualities of these heavens and stars; so that I thought I had said enough respecting them to show that there is nothing observable in the heavens or stars of our system that must not, or at least may not, appear precisely alike in those of the system which I described. I came next to speak of the earth in particular, and to show how, even though I had expressly supposed that God had given no weight to the matter of which it is composed, this should not prevent all its parts from tending exactly to its centre; how with water and air on its surface, the disposition of the heavens and heavenly bodies, more especially of the moon, must cause a flow and ebb, like in all its circumstances to that observed in our seas, as also a certain current both of water and air from east to west, such as is likewise observed between the tropics; how the mountains, seas, fountains, and rivers might naturally be formed in it, and the metals produced in the

mines, and the plants grow in the fields; and in general, how all the bodies which are commonly denominated mixed or composite might be generated: and, among other things in the discoveries alluded to, inasmuch as besides the stars, I knew nothing except fire which produces light, I spared no pains to set forth all that pertains to its nature, —the manner of its production and support, and to explain how heat is sometimes found without light, and light without heat; to show how it can induce various colours upon different bodies and other diverse qualities; how it reduces some to a liquid state and hardens others; how it can consume almost all bodies, or convert them into ashes and smoke; and finally, how from these ashes, by the mere intensity of its action, it forms glass: for as this transmutation of ashes into glass appeared to me as wonderful as any other in nature, I took a special pleasure in describing it.

H I was not, however, disposed, from these circumstances, to conclude that this world had been created in the manner I described; for it is much more likely that God made it at the first such as it was to be. But this is certain, and an opinion commonly received among theologians, that the action by which he now sustains it is the same with that by which he originally created it; so that even although he had from the beginning given it no other form than that of chaos, provided only he had established certain laws of nature, and had lent it his concurrence to enable it to act as it is wont to do, it may be believed, without discredit to the miracle of crea-

tion, that, in this way alone, things purely material might, in course of time, have become such as we observe them at present; and their nature is much more easily conceived when they are beheld coming in this manner gradually into existence, than when they are only considered as produced at once in a finished and perfect state. 4+

From the description of inanimate bodies and plants, I passed to animals, and particularly to man. But since I had not as yet sufficient knowledge to enable me to treat of these in the same manner as of the rest, that is to say, by deducing effects from their causes, and by showing from what elements and in what manner Nature must produce them, I remained satisfied with the supposition that God formed the body of man wholly like to one of ours, as well in the external shape of the members as in the internal conformation of the organs, of the same matter with that I had described, and at first placed in it no Rational Soul, nor any other principle, in room of the Vegetative or Sensitive Soul, beyond kindling in the heart one of those fires without light, such as I had already described, and which I thought was not different from the heat in hay that has been heaped together before it is dry, or that which causes fermentation in new wines before they are run clear of the fruit. For, when I examined the kind of functions which might, as consequences of this supposition, exist in this body, I found precisely all those which may exist in us independently of all power of thinking, and consequently without being in any measure owing to the soul; in other +

words, to that part of us which is distinct from the body, and of which it has been said above that the nature distinctively consists in thinking,—functions in which the animals void of Reason may be said wholly to resemble us; but among which I could not discover any of those that, as dependent on thought alone, belong to us as men, while, on the other hand, I did afterwards discover these as soon as I supposed God to have created a Rational Soul, and to have annexed it to this body in a particular manner which I described.

But, in order to show how I there handled this matter, I mean here to give the explication of the motion of the heart and arteries, which, as the first and most general motion observed in animals, will afford the means of readily determining what should be thought of all the rest. And that there may be less difficulty in understanding what I am about to say on this subject, I advise those who are not versed in Anatomy, before they commence the perusal of these observations, to take the trouble of getting dissected in their presence the heart of some large animal possessed of lungs, (for this is throughout sufficiently like the human,) and to have shewn to them its two ventricles or cavities: in the first place, that in the right side, with which correspond two very ample tubes, viz., the hollow vein, (*vena cava*,) which is the principal receptacle of the blood, and the trunk of the tree, as it were, of which all the other veins in the body are branches; and the arterial vein, (*vena arteriosa*,) inappropriately so denominated, since it is in truth only an artery,

which, taking its rise in the heart, is divided, after passing out from it, into many branches which presently disperse themselves all over the lungs; in the second place, the cavity in the left side, with which correspond in the same manner two canals in size equal to or larger than the preceding, viz., the venous artery, (*arteria venosa*,) likewise inappropriately thus designated, because it is simply a vein which comes from the lungs, where it is divided into many branches, interlaced with those of the arterial vein, and those of the tube called the windpipe, through which the air we breathe enters; and the great artery which, issuing from the heart, sends its branches all over the body. I should wish also that such persons were carefully shewn the eleven pellicles which, like so many small valves, open and shut the four orifices that are in these two cavities, viz., three at the entrance of the hollow vein, where they are disposed in such a manner as by no means to prevent the blood which it contains from flowing into the right ventricle of the heart, and yet exactly to prevent its flowing out; three at the entrance to the arterial vein, which, arranged in a manner exactly the opposite of the former, readily permit the blood contained in this cavity to pass into the lungs, but hinder that contained in the lungs from returning to this cavity; and, in like manner, two others at the mouth of the venous artery, which allow the blood from the lungs to flow into the left cavity of the heart, but preclude its return; and three at the mouth of the great artery, which suffer the blood to flow from the heart, but prevent its

reflux. Nor do we need to seek any other reason for the number of these pellicles beyond this that the orifice of the venous artery being of an oval shape from the nature of its situation, can be adequately closed with two, whereas the others being round are more conveniently closed with three. Besides, I wish such persons to observe that the grand artery and the arterial vein are of much harder and firmer texture than the venous artery and the hollow vein; and that the two last expand before entering the heart, and there form, as it were, two pouches denominated the auricles of the heart, which are composed of a substance similar to that of the heart itself; and that there is always more warmth in the heart than in any other part of the body; and, finally, that this heat is capable of causing any drop of blood that passes into the cavities rapidly to expand and dilate, just as all liquors do when allowed to fall drop by drop into a highly heated vessel.

For, after these things, it is not necessary for me to say anything more with a view to explain the motion of the heart, except that when its cavities are not full of blood, into these the blood of necessity flows,—from the hollow vein into the right, and from the venous artery into the left; because these two vessels are always full of blood, and their orifices, which are turned towards the heart, cannot then be closed. But as soon as two drops of blood have thus passed, one into each of the cavities, these drops which cannot but be very large, because the orifices through which they pass are wide, and the

vessels from which they come full of blood, are immediately rarefied, and dilated by the heat they meet with. In this way they cause the whole heart to expand, and at the same time press home and shut the five small valves that are at the entrances of the two vessels from which they flow, and thus prevent any more blood from coming down into the heart, and becoming more and more rarefied, they push open the six small valves that are in the orifices of the other two vessels, through which they pass out, causing in this way all the branches of the arterial vein and of the grand artery to expand almost simultaneously with the heart—which immediately thereafter begins to contract, as do also the arteries, because the blood that has entered them has cooled, and the six small valves close, and the five of the hollow vein and of the venous artery open anew and allow a passage to other two drops of blood, which cause the heart and the arteries again to expand as before. And, because the blood which thus enters into the heart passes through these two pouches called auricles, it thence happens that their motion is the contrary of that of the heart, and that when it expands they contract. But lest those who are ignorant of the force of mathematical demonstrations, and who are not accustomed to distinguish true reasons from mere verisimilitudes, should venture, without examination, to deny what has been said, I wish it to be considered that the motion which I have now explained follows as necessarily from the very arrangement of the parts, which may be observed in the heart by the eye

alone, and from the heat which may be felt with the fingers, and from the nature of the blood as learned from experience, as does the motion of a clock from the power, the situation, and shape of its counterweights and wheels.

But if it be asked how it happens that the blood in the veins, flowing in this way continually into the heart, is not exhausted, and why the arteries do not become too full, since all the blood which passes through the heart flows into them, I need only mention in reply what has been written by a physician* of England, who has the honour of having broken the ice on this subject, and of having been the first to teach that there are many small passages at the extremities of the arteries, through which the blood received by them from the heart passes into the small branches of the veins, whence it again returns to the heart; so that its course amounts precisely to a perpetual circulation. Of this we have abundant proof in the ordinary experience of surgeons, who, by binding the arm with a tie of moderate straitness above the part where they open the vein, cause the blood to flow more copiously than it would have done without any ligature; whereas quite the contrary would happen were they to bind it below; that is, between the hand and the opening, or were to make the ligature above the opening very tight. For it is manifest that the tie, moderately straitened, while adequate to hinder the blood already in the arm from returning towards the heart by the veins, cannot on that account prevent new blood

* Harvey—*Lat. Tr.*

from coming forward through the arteries, because these are situated below the veins, and their coverings, from their greater consistency, are more difficult to compress; and also that the blood which comes from the heart tends to pass through them to the hand with greater force than it does to return from the hand to the heart through the veins. And since the latter current escapes from the arm by the opening made in one of the veins, there must of necessity be certain passages below the ligature, that is, towards the extremities of the arm, through which it can come thither from the arteries. This physician likewise abundantly establishes what he has advanced respecting the motion of the blood, from the existence of certain pellicles, so disposed in various places along the course of the veins, in the manner of small valves, as not to permit the blood to pass from the middle of the body towards the extremities, but only to return from the extremities to the heart; and farther, from experience which shows that all the blood which is in the body may flow out of it in a very short time through a single artery that has been cut, even although this had been closely tied in the immediate neighbourhood of the heart, and cut between the heart and the ligature, so as to prevent the supposition that the blood flowing out of it could come from any other quarter than the heart.

But there are many other circumstances which evince that what I have alleged is the true cause of the motion of the blood: thus, in the first place, the difference that is observed between the blood which

flows from the veins, and that from the arteries, can only arise from this, that being rarefied, and, as it were, distilled by passing through the heart, it is thinner, and more vivacious, and warmer immediately after leaving the heart, in other words, when in the arteries, than it was a short time before passing into either, in other words, when it was in the veins; and if attention be given, it will be found that this difference is very marked only in the neighbourhood of the heart; and is not so evident in parts more remote from it. In the next place, the consistency of the coats of which the arterial vein and the great artery are composed, sufficiently shows that the blood is impelled against them with more force than against the veins. And why should the left cavity of the heart and the great artery be wider and larger than the right cavity and the arterial vein, were it not that the blood of the venous artery, having only been in the lungs after it has passed through the heart, is thinner, and rarefies more readily, and in a higher degree, than the blood which proceeds immediately from the hollow vein? And what can physicians conjecture from feeling the pulse unless they know that according as the blood changes its nature it can be rarefied by the warmth of the heart, in a higher or lower degree, and more or less quickly than before? And if it be inquired how this heat is communicated to the other members, must it not be admitted that this is effected by means of the blood, which, passing through the heart, is there heated anew, and thence diffused over all the body? Whence it happens,

that if the blood be withdrawn from any part, the heat is likewise withdrawn by the same means; and although the heart were as hot as glowing iron, it would not be capable of warming the feet and hands as at present, unless it continually sent thither new blood. We likewise perceive from this, that the true use of respiration is to bring sufficient fresh air into the lungs, to cause the blood which flows into them from the right ventricle of the heart, where it has been rarefied and, as it were, changed into vapours, to become thick, and to convert it anew into blood, before it flows into the left cavity, without which process it would be unfit for the nourishment of the fire that is there. This receives confirmation from the circumstance, that it is observed of animals destitute of lungs that they have also but one cavity in the heart, and that in children who cannot use them while in the womb, there is a hole through which the blood flows from the hollow vein into the left cavity of the heart, and a tube through which it passes from the arterial vein into the grand artery without passing through the lung. In the next place, how could digestion be carried on in the stomach unless the heart communicated heat to it through the arteries, and along with this certain of the more fluid parts of the blood, which assist in the dissolution of the food that has been taken in? Is not also the operation which converts the juice of food into blood easily comprehended, when it is considered that it is distilled by passing and repassing through the heart perhaps more than one or two hundred times in a

day? And what more need be adduced to explain nutrition, and the production of the different humours of the body, beyond saying, that the force with which the blood, in being rarefied, passes from the heart towards the extremities of the arteries, causes certain of its parts to remain in the members at which they arrive, and there occupy the place of some others expelled by them; and that according to the situation, shape, or smallness of the pores with which they meet, some rather than others flow into certain parts, in the same way that some sieves are observed to act, which, by being variously perforated, serve to separate different species of grain? And, in the last place, what above all is here worthy of observation, is the generation of the animal spirits, which are like a very subtle wind, or rather a very pure and vivid flame which, continually ascending in great abundance from the heart to the brain, thence penetrates through the nerves into the muscles, and gives motion to all the members; so that to account for other parts of the blood which, as most agitated and penetrating, are the fittest to compose these spirits, proceeding towards the brain, it is not necessary to suppose any other cause, than simply, that the arteries which carry them thither proceed from the heart in the most direct lines, and that, according to the rules of Mechanics, which are the same with those of Nature, when many objects tend at once to the same point where there is not sufficient room for all, (as is the case with the parts of the blood which flow forth from the left cavity of the heart and tend towards the brain,) the weaker

and less agitated parts must necessarily be driven aside from that point by the stronger which alone in this way reach it.

I had expounded all these matters with sufficient minuteness in the Treatise which I formerly thought of publishing. And after these, I had shewn what must be the fabric of the nerves and muscles of the human body to give the animal spirits contained in it the power to move the members, as when we see heads shortly after they have been struck off still move and bite the earth, although no longer animated; what changes must take place in the brain to produce waking, sleep, and dreams, how light, sounds, odours, tastes, heat, and all the other qualities of external objects impress it with different ideas by means of the senses; how hunger, thirst, and the other internal affections can likewise impress upon it divers ideas; what must be understood by the common sense (*sensus communis*) in which these ideas are received, by the memory which retains them, by the fantasy which can change them in various ways, and out of them compose new ideas, and which, by the same means, distributing the animal spirits through the muscles, can cause the members of such a body to move in as many different ways, and in a manner as suited, whether to the objects that are presented to its senses or to its internal affections, as can take place in our own case apart from the guidance of the will. Nor will this appear at all strange to those who are acquainted with the variety of movements performed by the different automata, or moving

machines fabricated by human industry, and that with help of but few pieces compared with the great multitude of bones, muscles, nerves, arteries, veins, and other parts that are found in the body of each animal. Such persons will look upon this body as a machine made by the hands of God, which is incomparably better arranged, and adequate to movements more admirable than is any machine of human invention. And here I specially stayed to show that, were there such machines exactly resembling in organs and outward form an ape or any other irrational animal, we could have no means of knowing that they were in any respect of a different nature from these animals; but if there were machines bearing the image of our bodies, and capable of imitating our actions as far as it is morally possible, there would still remain two most certain tests whereby to know that they were not therefore really men. Of these the first is that they could never use words or other signs arranged in such a manner as is competent to us in order to declare our thoughts to others: for we may easily conceive a machine to be so constructed that it emits vocables, and even that it emits some correspondent to the action upon it of external objects which cause a change in its organs; for example, if touched in a particular place it may demand what we wish to say to it; if in another it may cry out that it is hurt, and such like; but not that it should arrange them variously so as appositely to reply to what is said in its presence, as men of the lowest grade of intellect can do. The second test is, that

although such machines might execute many things with equal or perhaps greater perfection than any of us, they would, without doubt, fail in certain others from which it could be discovered that they did not act from knowledge, but solely from the disposition of their organs: for while Reason is an universal instrument that is alike available on every occasion, these organs, on the contrary, need a particular arrangement for each particular action; whence it must be morally impossible that there should exist in any machine a diversity of organs sufficient to enable it to act in all the occurrences of life, in the way in which our reason enables us to act. Again, by means of these two tests we may likewise know the difference between men and brutes. For it is highly deserving of remark, that there are no men so dull and stupid, not even idiots, as to be incapable of joining together different words, and thereby constructing a declaration by which to make their thoughts understood; and that on the other hand, there is no other animal, however perfect or happily circumstanced, which can do the like. Nor does this inability arise from want of organs: for we observe that magpies and parrots can utter words like ourselves, and are yet unable to speak as we do, that is, so as to show that they understand what they say; in place of which men born deaf and dumb, and thus not less, but rather more than the brutes, destitute of the organs which others use in speaking, are in the habit of spontaneously inventing certain signs by which they discover their thoughts to those who, being usually in

their company, have leisure to learn their language. And this proves not only that the brutes have less Reason than man, but that they have none at all: for we see that very little is required to enable a person to speak; and since a certain inequality of capacity is observable among animals of the same species, as well as among men, and since some are more capable of being instructed than others, it is incredible that the most perfect ape or parrot of its species, should not in this be equal to the most stupid infant of its kind, or at least to one that was crack-brained, unless the soul of brutes were of a nature wholly different from ours. And we ought not to confound speech with the natural movements which indicate the passions, and can be imitated by machines as well as manifested by animals; nor must it be thought with certain of the ancients, that the brutes speak, although we do not understand their language. For if such were the case, since they are endowed with many organs analogous to ours, they could as easily communicate their thoughts to us as to their fellows. It is also very worthy of remark, that, though there are many animals which manifest more industry than we in certain of their actions, the same animals are yet observed to show none at all in many others: so that the circumstance that they do better than we does not prove that they are endowed with mind, for it would thence follow that they possessed greater Reason than any of us, and could surpass us in all things; on the contrary, it rather proves that they are destitute of Reason, and that it is Nature which

acts in them according to the disposition of their organs: thus it is seen, that a clock composed only of wheels and weights can number the hours and measure time more exactly than we with all our skill. ✓

I had after this described the Reasonable Soul, and shewn that it could by no means be educed from the power of matter, as the other things of which I had spoken, but that it must be expressly created; and that it is not sufficient that it be lodged in the human body exactly like a pilot in a ship, unless perhaps to move its members, but that it is necessary for it to be joined and united more closely to the body, in order to have sensations and appetites similar to ours, and thus constitute a real man. I here entered, in conclusion, upon the subject of the soul at considerable length, because it is of the greatest moment: for after the error of those who deny the existence of God, an error which I think I have already sufficiently refuted, there is none that is more powerful in leading feeble minds astray from the straight path of virtue than the supposition that the soul of the brutes is of the same nature with our own; and consequently that after this life we have nothing to hope for or fear, more than flies and ants; in place of which, when we know how far they differ we much better comprehend the reasons which establish that the soul is of a nature wholly independent of the body, and that consequently it is not liable to die with the latter; and, finally, because no other causes are observed capable of destroying it, we are naturally led thence to judge that it is immortal. ✓

why?

PART VI.

THREE years have now elapsed since I finished the Treatise containing all these matters; and I was beginning to revise it, with the view to put it into the hands of a printer, when I learned that persons to whom I greatly defer, and whose authority over my actions is hardly less influential than is my own Reason over my thoughts, had condemned a certain doctrine in Physics, published a short time previously by another individual,* to which I will not say that I adhered, but only that, previously to their censure, I had observed in it nothing which I could imagine to be prejudicial either to religion or to the state, and nothing therefore which would have prevented me from giving expression to it in writing, if Reason had persuaded me of its truth; and this led me to fear lest among my own doctrines likewise some one might be found in which I had departed from the truth, notwithstanding the great care I have always taken not to accord belief to new opinions of which I had not the most certain demonstrations, and not to give expression to aught that might tend to the hurt of any one. This has been sufficient to make me alter my purpose of publishing them; for although the reasons by which I had been induced to take this

* Galileo.—*Tr.*

resolution were very strong, yet my inclination, which has always been hostile to writing books, enabled me immediately to discover other considerations sufficient to excuse me for not undertaking the task. And these reasons, on one side and the other, are such, that not only is it in some measure my interest here to state them, but that of the public, perhaps, to know them.

I have never made much account of what has proceeded from my own mind; and so long as I gathered no other advantage from the Method I employ beyond satisfying myself on some difficulties belonging to the speculative sciences, or endeavouring to regulate my actions according to the principles it taught me, I never thought myself bound to publish anything respecting it. For in what regards manners, every one is so full of his own wisdom, that there might be found as many reformers as heads, if any were allowed to take upon themselves the task of mending them, except those whom God has constituted the supreme rulers of his people, or to whom he has given sufficient grace and zeal to be prophets; and although my speculations greatly pleased myself, I believed that others had theirs, which perhaps pleased them still more. But as soon as I had acquired some general notions respecting Physics, and beginning to make trial of them in various particular difficulties, had observed how far they can carry us, and how much they differ from the principles that have been employed up to the present time, I believed that I could not keep them concealed without sinning grievously against the

Law by which we are bound to promote, as far as in us lies, the general good of mankind. For by them I perceived it to be possible to arrive at knowledge highly useful in life, and in room of the Speculative Philosophy usually taught in the Schools, to discover a Practical, by means of which, knowing the force and action of fire, water, air, the stars, the heavens, and all the other bodies that surround us, as distinctly as we know the various crafts of our artizans, we might also apply them in the same way to all the uses to which they are adapted, and thus render ourselves the lords and possessors of nature. And this is a result to be desired, not only in order to the invention of an infinity of arts, by which we might be enabled to enjoy without any trouble the fruits of the earth, and all its comforts, but also and especially for the preservation of health, which is without doubt, of all the blessings of this life, the first and fundamental one; for the mind is so intimately dependent upon the condition and relation of the organs of the body, that if any means can ever be found to render men wiser and more ingenious than hitherto, I believe that it is in Medicine they must be sought for. It is true that the science of Medicine, as it now exists, contains few things whose utility is very remarkable: but without any wish to depreciate it, I am confident that there is no one, even among those whose profession it is, who does not admit that all at present known in it is almost nothing in comparison of what remains to be discovered; and that we could free ourselves from an infinity of maladies of body as well as of mind,

and perhaps also even from the debility of age, if we had sufficiently ample knowledge of their causes, and of all the remedies provided for us by Nature. But since I designed to employ my whole life in the search after so necessary a Science, and since I had fallen in with a path which seems to me such, that if any one follow it he must inevitably reach the end desired, unless he be hindered either by the shortness of life or the want of experiments, I judged that there could be no more effectual provision against these two impediments than if I were faithfully to communicate to the public all the little I might myself have found, and incite men of superior genius to strive to proceed farther, by contributing, each according to his inclination and ability, to the experiments which it would be necessary to make, and also by informing the public of all they might discover, so that, by the last beginning where those before them had left off, and thus connecting the lives and labours of many, we might collectively proceed much farther than each by himself could do.

I remarked, moreover, with respect to experiments, that they become always more necessary the more one is advanced in knowledge; for, at the commencement it is better to make use only of what is spontaneously presented to our senses, and of which we cannot remain ignorant, provided we bestow on it any reflection, however slight, than to concern ourselves about more uncommon and recondite phænomena: the reason of which is, that the more uncommon often only mislead us so long as the causes of the more ordinary are still unknown;

and the circumstances upon which they depend are almost always so special and minute as to be highly difficult to detect. But in this I have adopted the following order: first, I have essayed to find in general the principles, or first causes, of all that is or can be in the world, without taking into consideration for this end anything but God himself who has created it, and without educing them from any other source than from certain germs of truths naturally existing in our minds. In the second place, I examined what were the first and most ordinary effects that could be deduced from these causes; and it appears to me that, in this way, I have found heavens, stars, an earth, and even on the earth, water, air, fire, minerals, and some other things of this kind, which of all others are the most common and simple, and hence the easiest to know. Afterwards, when I wished to descend to the more particular, so many diverse objects presented themselves to me, that I believed it to be impossible for the human mind to distinguish the forms or species of bodies that are upon the earth, from an infinity of others which might have been, if it had pleased God to place them there, or consequently to apply them to our use, unless we rise to causes through their effects, and avail ourselves of many particular experiments. Thereupon, turning over in my mind all the objects that had ever been presented to my senses, I freely venture to state that I have never observed any which I could not satisfactorily explain by the principles I had discovered. But it is necessary also to confess that the power of nature is so

ample and vast, and these principles so simple and general, that I have hardly observed a single particular effect which I cannot at once recognise as capable of being deduced in many different modes from the principles, and that my greatest difficulty usually is to discover in which of these modes the effect is dependent upon them; for out of this difficulty I cannot otherwise extricate myself than by again seeking certain experiments, which may be such that their result is not the same, if it is in the one of these modes that we must explain it, as it would be if it were to be explained in the other. As to what remains, I am now in a position to discern, as I think, with sufficient clearness what course must be taken to make the majority of those experiments which may conduce to this end: but I perceive likewise that they are such and so numerous, that neither my hands nor my income, though it were a thousand times larger than it is, would be sufficient for them all; so that, according as henceforward I shall have the means of making more or fewer experiments, I shall in the same proportion make greater or less progress in the knowledge of nature. This was what I had hoped to make known by the Treatise I had written, and so clearly to exhibit the advantage that would thence accrue to the public, as to induce all who have the common good of man at heart, that is, all who are virtuous in truth, and not merely in appearance, or according to opinion, as well to communicate to me the experiments they had already made, as to assist me in those that remain to be made.

But since that time other reasons have occurred to me, by which I have been led to change my opinion, and to think that I ought indeed to go on committing to writing all the results which I deemed of any moment, as soon as I should have tested their truth, and to bestow the same care upon them as I would have done had it been my design to publish them. This course commended itself to me, as well because I thus afforded myself more ample inducement to examine them thoroughly, for doubtless that is always more narrowly scrutinized which we believe will be read by many, than that which is written merely for our private use, (and frequently what has seemed to me true when I first conceived it, has appeared false when I have set about committing it to writing;) as because I thus lost no opportunity of advancing the interests of the public, as far as in me lay, and since thus likewise, if my writings possess any value, those into whose hands they may fall after my death may be able to put them to what use they deem proper. But I resolved by no means to consent to their publication during my lifetime, lest either the oppositions or the controversies to which they might give rise, or even the reputation, such as it might be, which they would acquire for me, should be any occasion of my losing the time that I had set apart for my own improvement. For though it be true that every one is bound to promote to the extent of his ability the good of others, and that to be useful to no one is really to be worthless, yet it is likewise true that our cares ought to extend beyond the present; and it is good to omit doing

what might perhaps bring some profit to the living, when we have in view the accomplishment of other ends that will be of much greater advantage to posterity. And in truth, I am quite willing it should be known that the little I have hitherto learned is almost nothing in comparison with that of which I am ignorant, and to the knowledge of which I do not despair of being able to attain for it is much the same with those who gradually discover truth in the Sciences, as with those who when growing rich find less difficulty in making great acquisitions, than they formerly experienced when poor in making acquisitions of much smaller amount. Or they may be compared to the commanders of armies, whose forces usually increase in proportion to their victories, and who need greater prudence to keep together the residue of their troops after a defeat than after a victory to take towns and provinces. For he truly engages in battle who endeavours to surmount all the difficulties and errors which prevent him from reaching the knowledge of truth, and he is overcome in fight who admits a false opinion touching a matter of any generality and importance, and he requires thereafter much more skill to recover his former position than to make great advances when once in possession of thoroughly ascertained principles. As for myself, if I have succeeded in discovering any truths in the Sciences, (and I trust that what is contained in this volume* will show that I have found some,) I can declare that they are but the consequences and

* See p. 31, footnote.

results of five or six principal difficulties which I have surmounted, and my encounters with which I reckoned as battles in which victory declared for me. I will not hesitate even to avow my belief that nothing further is wanting to enable me fully to realize my designs than to gain two or three similar victories; and that I am not so far advanced in years but that, according to the ordinary course of nature, I may still have sufficient leisure for this end. But I conceive myself the more bound to husband the time that remains the greater my expectation of being able to employ it aright, and I should doubtless have much to rob me of it, were I to publish the principles of my Physics: for although they are almost all so evident that to assent to them no more is needed than simply to understand them, and although there is not one of them of which I do not expect to be able to give demonstration, yet, as it is impossible that they can be in accordance with all the diverse opinions of others, I foresee that I should frequently be turned aside from my grand design, on occasion of the opposition which they would be sure to awaken.

① 4 | It may be said, that these oppositions would be useful both in making me aware of my errors, and, if my speculations contain anything of value, in bringing others to a fuller understanding of it; and still farther, as many can see better than one, in leading others who are now beginning to avail themselves of my principles, to assist me in turn with their discoveries. But though I recognise my extreme liability to error, and scarce ever trust to

the first thoughts which occur to me, yet the experience I have had of possible objections to my views prevents me from anticipating any profit from them. For I have already had frequent proof of the judgments, as well of those I esteemed friends, as of some others to whom I thought I was an object of indifference, and even of some whose malignity and envy would, I knew, determine them to endeavour to discover what partiality concealed from the eyes of my friends. But it has rarely happened that anything has been objected to me which I had myself altogether overlooked, unless it were something far removed from the subject: so that I have never met with a single critic of my opinions who did not appear to me either less rigorous or less equitable than myself. And further, I have never observed that any truth before unknown has been brought to light by the disputations that are practised in the Schools; for while each strives for the victory, each is much more occupied in making the best of mere verisimilitude, than in weighing the reasons on both sides of the question; and those who have been long good advocates are not afterwards on that account the better judges.

As for the advantage that others would derive from the communication of my thoughts, it could not be very great; because I have not yet so far prosecuted them as that much does not remain to be added before they can be applied to practice. And I think I may say without vanity, that if there is any one who can carry them out that length, it must be myself rather than another: not that there may

not be in the world many minds incomparably superior to mine, but because one cannot so well ✓ seize a thing and make it one's own, when it has been learned from another, as when one has himself discovered it. And so true is this of the present subject that, though I have often explained some of my opinions to persons of much acuteness, who, whilst I was speaking, appeared to understand them very distinctly, yet, when they repeated them, I ✓ have observed that they almost always changed them to such an extent that I could no longer acknowledge them as mine. I am glad, by the way, to take this opportunity of requesting posterity never to believe on hearsay that anything has proceeded from me which has not been published by myself; and I am not at all astonished at the extravagances attributed to those ancient philosophers whose own writings we do not possess; whose thoughts, however, I do not on that account suppose to have been really absurd, seeing they were among the ablest men of their times, but only that these have been falsely represented to us. It is observable, accordingly, that scarcely in a single instance has any one of their disciples surpassed them; and I am quite sure that the most devoted of the present followers of Aristotle would think themselves happy if they had as much knowledge of nature as he possessed, were it even under the condition that they should never afterwards attain to higher. In this respect they are like the ivy which never strives to rise above the tree that sustains it, and which frequently even returns downwards when it has

reached the top; for it seems to me that they also sink, in other words, render themselves less wise than they would be if they gave up study, who, not contented with knowing all that is intelligibly explained in their author, desire in addition to find in him the solution of many difficulties of which he says not a word, and never perhaps so much as thought. Their fashion of philosophizing, however, is well suited to persons whose abilities fall below mediocrity; for the obscurity of the distinctions and principles of which they make use enables them to speak of all things with as much confidence as if they really knew them, and to defend all that they say on any subject against the most subtle and skilful, without its being possible for any one to convict them of error. In this they seem to me to be like a blind man, who, in order to fight on equal terms with a person that sees, should have made him descend to the bottom of an intensely dark cave: and I may say that such persons have an interest in my refraining from publishing the principles of the Philosophy of which I make use; for, since these are of a kind the simplest and most evident, I should, by publishing them, do much the same as if I were to throw open the windows, and allow the light of day to enter the cave into which the combatants had descended. But even superior men have no reason for any great anxiety to know these principles, for if what they desire is to be able to speak of all things, and to acquire a reputation for learning, they will gain their end more easily by remaining satisfied with the appearance of truth,

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which can be found without much difficulty in all sorts of matters, than by seeking the truth itself which unfolds itself but slowly and that only in some departments, while it obliges us, when we have to speak of others, freely to confess our ignorance. If, however, they prefer the knowledge of some few truths to the vanity of appearing ignorant of none, as such knowledge is undoubtedly much to be preferred, and, if they choose to follow a course similar to mine, they do not require for this that I should say anything more than I have already said in this Discourse. For if they are capable of making greater advancement than I have made, they will much more be able of themselves to discover all that I believe myself to have found; since as I have never examined aught except in order, it is certain that what yet remains to be discovered is in itself more difficult and recondite, than that which I have already been enabled to find, and the gratification would be much less in learning it from me than in discovering it for themselves. Besides this, the habit which they will acquire, by seeking first what is easy, and then passing onward slowly and step by step to the more difficult, will benefit them more than all my instructions. Thus, in my own case, I am persuaded that if I had been taught from my youth all the truths of which I have since sought out demonstrations, and had thus learned them without labour, I should never, perhaps, have known any beyond these; at least, I should never have acquired the habit and the facility which I think I possess in always discovering new truths in

proportion as I give myself to the search. And, in a single word, if there is any work in the world which cannot be so well finished by another as by him who has commenced it, it is that at which I labour.

It is true, indeed, as regards the experiments which may conduce to this end, that one man is not equal to the task of making them all, but yet he can advantageously avail himself, in this work, of no hands besides his own, unless those of artisans, or parties of the same kind, whom he could pay, and whom the hope of gain (a means of great efficacy) might stimulate to accuracy in the performance of what was prescribed to them. For as to those who, through curiosity or a desire of learning, of their own accord perhaps, offer him their services, besides that in general their promises exceed their performance, and that they sketch out fine designs of which not one is ever realized, they will, without doubt, expect to be compensated for their trouble by the explication of some difficulties, or, at least, by compliments and useless speeches, in which he cannot spend any portion of his time without loss to himself. And as for the experiments that others have already made, even although these parties should be willing of themselves to communicate them to him, (which is what those who esteem them secrets will never do,) the experiments are, for the most part, accompanied with so many circumstances and superfluous elements, as to make it exceedingly difficult to disentangle the truth from its adjuncts; besides, he will find almost all of them so

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ill described, or even so false, (because those who made them have wished to see in them only such facts as they deemed comformable to their principles,) that, if in the entire number there should be some of a nature suited to his purpose, still their value could not compensate for the time that would be necessary to make the selection. So that if there existed any one whom we assuredly knew to be capable of making discoveries of the highest kind, and of the greatest possible utility to the public; and if all other men were therefore eager by all means to assist him in successfully prosecuting his designs, I do not see that they could do aught else for him beyond contributing to defray the expenses of the experiments that might be necessary; and for the rest, prevent his being deprived of his leisure by the unseasonable interruptions of any one. But besides that I neither have so high an opinion of myself as to be willing to make promise of anything extraordinary, nor feed on imaginations so vain as to fancy that the public must be much interested in my designs; I do not, on the other hand, own a soul so mean as to be capable of accepting from any one a favour of which it could be supposed that I was unworthy.

These considerations taken together were the reason why, for the last three years, I have been unwilling to publish the Treatise I had on hand, and why I even resolved to give publicity during my life to no other that was so general, or by which the principles of my Physics might be understood. But since then, two other reasons have come into opera-

tion that have determined me here to subjoin some particular specimens, and give the public some account of my doings and designs. Of these considerations, the first is, that if I failed to do so, many who were cognizant of my previous intention to publish some writings, might have imagined that the reasons which induced me to refrain from so doing, were less to my credit than they really are; for although I am not immoderately desirous of glory, or even, if I may venture so to say, although I am averse from it in so far as I deem it hostile to repose which I hold in greater account than aught else, yet, at the same time, I have never sought to conceal my actions as if they were crimes, nor made use of many precautions that I might remain unknown; and this partly because I should have thought such a course of conduct a wrong against myself, and partly because it would have occasioned me some sort of uneasiness which would again have been contrary to the perfect mental tranquillity which I court. And forasmuch as, while thus indifferent to the thought alike of fame or of forgetfulness, I have yet been unable to prevent myself from acquiring some sort of reputation, I have thought it incumbent on me to do my best to save myself at least from being ill-spoken of. The other reason that has determined me to commit to writing these specimens of philosophy is, that I am becoming daily more and more alive to the delay which my design of self-instruction suffers, for want of the infinity of experiments I require, and which it is impossible for me to make without the assistance of

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(2)

others: and, without flattering myself so much as to expect the public to take a large share of my interests, I am yet unwilling to be found so far wanting in the duty I owe to myself, as to give occasion to those who shall survive me to make it matter of reproach against me some day, that I might have left them many things in a much more perfect state than I have done, had I not too much neglected to make them aware of the ways in which they could have promoted the accomplishment of my designs.

And I thought that it was easy for me to select some matters which should neither be obnoxious to much controversy, nor should compel me to expound more of my principles than I desired, and which should yet be sufficient clearly to exhibit what I can or cannot accomplish in the Sciences. Whether or not I have succeeded in this it is not for me to say; and I do not wish to forestall the judgments of others by speaking myself of my writings; but it will gratify me if they be examined, and, to afford the greater inducement to this, I request all who may have any objections to make to them, to take the trouble of forwarding these to my publisher, who will give me notice of them, that I may endeavour to subjoin at the same time my reply; and in this way readers seeing both at once will more easily determine where the truth lies; for I do not engage in any case to make prolix replies, but only with perfect frankness to avow my errors if I am convinced of them, or if I cannot perceive them, simply to state what I think is required for defence of the matters I have written, adding

thereto no explication of any new matter that it may not be necessary to pass without end from one thing to another.

If some of the matters of which I have spoken in the beginning of the Dioptrics and Meteorics should offend at first sight, because I call them hypotheses and seem indifferent about giving proof of them, I request a patient and attentive reading of the whole, from which I hope those hesitating will derive satisfaction; for it appears to me that the reasonings are so mutually connected in these Treatises, that, as the last are demonstrated by the first which are their causes, the first are in their turn demonstrated by the last which are their effects. Nor must it be imagined that I here commit the fallacy which the logicians call a circle; for since experience renders the majority of these effects most certain, the causes from which I deduce them do not serve so much to establish their reality as to explain their existence; but on the contrary, the reality of the causes is established by the reality of the effects. Nor have I called them hypotheses with any other end in view except that it may be known that I think I am able to deduce them from those first truths which I have already expounded; and yet that I have expressly determined not to do so, to prevent a certain class of minds from thence taking occasion to build some extravagant Philosophy upon what they may take to be my principles, and my being blamed for it. I refer to those who imagine that they can master in a day all that another has taken twenty years to think out, as soon as he has spoken two or three

words to them on the subject; or who are the more liable to error and the less capable of perceiving truth in very proportion as they are more subtle and lively. As to the opinions which are truly and wholly mine, I offer no apology for them as new,—persuaded as I am that if their reasons be well considered they will be found to be so simple and so conformed to common sense as to appear less extraordinary and less paradoxical than any others which can be held on the same subjects; nor do I even boast of being the earliest discoverer of any of them, but only of having adopted them, neither because they had nor because they had not been held by others, but solely because Reason has convinced me of their truth.

Though artisans may not be able at once to execute the invention which is explained in the Dioptrics, I do not think that any one on that account is entitled to condemn it; for since address and practice are required in order so to make and adjust the machines described by me as not to overlook the smallest particular, I should not be less astonished if they succeeded on the first attempt than if a person were in one day to become an accomplished performer on the guitar, by merely having excellent sheets of music set up before him. And if I write in French, which is the language of my country, in preference to Latin, which is that of my preceptors, it is because I expect that those who make use of their unprejudiced natural Reason will be better judges of my opinions than those who give heed to the writings of the ancients only; and as for

those who unite good sense with habits of study, whom alone I desire for judges, they will not, I feel assured, be so partial to Latin as to refuse to listen to my reasonings merely because I expound them in the vulgar Tongue.

In conclusion, I am unwilling here to say anything very specific of the progress which I expect to make for the future in the Sciences, or to bind myself to the public by any promise which I am not certain of being able to fulfil; but this only will I say, that I have resolved to devote what time I may still have to live to no other occupation than that of endeavouring to acquire some knowledge of Nature, which shall be of such a kind as to enable us therefrom to deduce rules in Medicine of greater certainty than those at present in use; and that my inclination is so much opposed to all other pursuits, especially to such as cannot be useful to some without being hurtful to others, that if, by any circumstances, I had been constrained to engage in such, I do not believe that I should have been able to succeed. Of this I here make a public declaration, though well aware that it cannot serve to procure for me any consideration in the world, which, however, I do not in the least affect; and I shall always hold myself more obliged to those through whose favour I am permitted to enjoy my retirement without interruption than to any who might offer me the highest earthly preferments.

THE
PHILOSOPHICAL WORKS

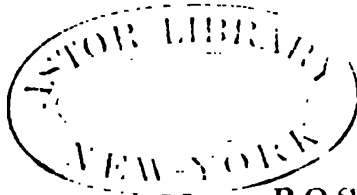
OF

DAVID HUME.

INCLUDING ALL THE ESSAYS, AND EXHIBITING THE MORE
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THE SUCCESSIVE EDITIONS PUBLISHED
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AN INQUIRY

CONCERNING HUMAN UNDERSTANDING.

SECTION I.

OF THE DIFFERENT SPECIES OF PHILOSOPHY.

MORAL philosophy, or the science of human nature, may be treated after two different manners, each of which has its peculiar merit, and may contribute to the entertainment, instruction, and reformation of mankind. The one considers man chiefly as born for action, and as influenced in his measures by taste and sentiment; pursuing one object and avoiding another, according to the value which these objects seem to possess, and according to the light in which they present themselves. As virtue, of all objects, is allowed to be the most valuable, this species of philosophers paint her in the most amiable colors, borrowing all helps from poetry and eloquence, and treating their subject in an easy and obvious manner, and such as is best fitted to please the imagination, and engage the affections. They select the most striking observations and instances from common life, place opposite characters in a proper contrast, and, alluring us into the paths of virtue by the views of glory and happiness, direct our steps in these paths by the soundest precepts and most illustrious examples. They make us feel the difference between vice and virtue; they excite and regulate our sentiments; and so they can but bend

our hearts to the love of probity and true honor, they think that they have fully attained the end of all their labors.

The other species of philosophers consider man in the light of a reasonable rather than an active being, and endeavor to form his understanding more than cultivate his manners. They regard human nature as a subject of speculation; and with a narrow scrutiny examine it, in order to find those principles which regulate our understanding, excite our sentiments, and make us approve or blame any particular object, action, or behavior. They think it a reproach to all literature, that philosophy should not yet have fixed, beyond controversy, the foundation of morals, reasoning, and criticism; and should for ever talk of truth and falsehood, vice and virtue, beauty and deformity, without being able to determine the source of those distinctions. While they attempt this arduous task, they are deterred by no difficulties; but, proceeding from particular instances to general principles, they still push on their inquiries to principles more general, and rest not satisfied till they arrive at those original principles by which, in every science, all human curiosity must be bounded. Though their speculations seem abstract, and even unintelligible to common readers, they aim at the approbation of the learned and the wise, and think themselves sufficiently compensated for the labor of their whole lives, if they can discover some hidden truths which may contribute to the instruction of posterity.

It is certain that the easy and obvious philosophy will always, with the generality of mankind, have the preference above the accurate and abstruse; and by many will be recommended, not only as more agreeable, but more useful, than the other. It enters more into com-

mon life; moulds the heart and affections; and, by touching those principles which actuate men, reforms their conduct, and brings them nearer to that model of perfection which it describes. On the contrary, the abstruse philosophy, being founded on a turn of mind which cannot enter into business and action, vanishes when the philosopher leaves the shade and comes into open day; nor can its principles easily retain any influence over our conduct and behavior. The feelings of our heart, the agitation of our passions, the vehemence of our affections, dissipate all its conclusions, and reduce the profound philosopher to a mere plebeian.

This also must be confessed, that the most durable, as well as justest fame, has been acquired by the easy philosophy; and that abstract reasoners seem hitherto to have enjoyed only a momentary reputation, from the caprice or ignorance of their own age, but have not been able to support their renown with more equitable posterity. It is easy for a profound philosopher to commit a mistake in his subtle reasonings; and one mistake is the necessary parent of another, while he pushes on his consequences, and is not deterred from embracing any conclusion, by its unusual appearance, or its contradiction to popular opinion. But a philosopher, who purposes only to represent the common sense of mankind in more beautiful and more engaging colors, if by accident he falls into error, goes no further; but renewing his appeal to common sense, and the natural sentiments of the mind, returns into the right path, and secures himself from any dangerous illusions. The fame of Cicero flourishes at present; but that of Aristotle is utterly decayed. La Bruyere passes the seas, and still maintains his reputation; but the glory of Malebranche is confined to his own nation and to his own age. And

Addison, perhaps, will be read with pleasure, when Locke shall be entirely forgotten.*

The mere philosopher is a character which is commonly but little acceptable in the world, as being supposed to contribute nothing either to the advantage or pleasure of society, while he lives remote from communication with mankind, and is wrapped up in principles and notions equally remote from their comprehension. On the other hand, the mere ignorant is still more despised; nor is any thing deemed a surer sign of an illiberal genius, in an age and nation where the sciences flourish, than to be entirely destitute of all relish for those noble entertainments. The most perfect character is supposed to lie between those extremes; retaining an equal ability and taste for books, company, and business; preserving in conversation that discernment and delicacy which arise from polite letters; and, in business, that probity and accuracy which are the natural result of a just philosophy. In order to diffuse and cultivate so accomplished a character, nothing can be more useful than compositions of the easy style and manner, which draw not too much from life, require no deep application or retreat to be comprehended, and send back the student among mankind full of noble sentiments and wise precepts, applicable to every exigence of human life. By means of such compositions, virtue becomes amiable, science agreeable, company instructive, and retirement entertaining.

Man is a reasonable being; and, as such, receives from science his proper food and nourishment: but so

* This is not intended any way to detract from the merit of Mr. Locke, who was really a great philosopher, and a just and modest reasoner. It is only meant to show the common fate of such abstract philosophy.— Note in EDITIONS K, L.

Handwritten: narrow are the bounds of human understanding, that little satisfaction can be hoped for in this particular, either from the extent or security of his acquisitions. Man is a sociable, no less than a reasonable being: but neither can he always enjoy company agreeable and amusing, or preserve the proper relish for them. Man is also an active being; and, from that disposition, as well as from the various necessities of human life, must submit to business and occupation: but the mind requires some relaxation, and cannot always support its bent to care and industry. It seems, then, that Nature has pointed out a mixed kind of life as most suitable to the human race, and secretly admonished them to allow none of these biases to *draw* too much, so as to incapacitate them for other occupations and entertainments. Indulge your passion for science, says she, but let your science be human, and such as may have a direct reference to action and society. Abstruse thought and profound researches I prohibit, and will severely punish, by the pensive melancholy which they introduce, by the endless uncertainty in which they involve you, and by the cold reception your pretended discoveries shall meet with, when communicated. Be a philosopher: but, amidst all your philosophy, be still a man.

Were the generality of mankind contented to prefer the easy philosophy to the abstract and profound, without throwing any blame or contempt on the latter, it might not be improper, perhaps, to comply with this general opinion, and allow every man to enjoy, without opposition, his own taste and sentiment. But as the matter is often carried further, even to the absolute rejection of all profound reasonings, or what is commonly called *metaphysics*, we shall now proceed to consider what can reasonably be pleaded in their behalf.

We may begin with observing, that one considerable advantage which results from the accurate and abstract philosophy, is its subserviency to the éasy and humane ; which, without the former, can never attain a sufficient degree of exactness in its sentiments, precepts, or reasonings. All polite letters are nothing but pictures of human life in various attitudes and situations, and inspire us with different sentiments of praise or blame, admiration or ridicule, according to the qualities of the object which they set before us. An artist must be better qualified to succeed in this undertaking, who, besides a delicate taste and a quick apprehension, possesses an accurate knowledge of the internal fabric, the operations of the understanding, the workings of the passions, and the various species of sentiment which discriminate vice and virtue. How painful soever this inward search or inquiry may appear, it becomes in some measure requisite to those who would describe with success the obvious and outward appearances of life and manners. The anatomist presents to the eye the most hideous and disagreeable objects ; but his science is useful to the painter in delineating even a Venus or a Helen. While the latter employs all the richest colors of his art, and gives his figures the most graceful and engaging airs, he must still carry his attention to the inward structure of the human body, the position of the muscles, the fabric of the bones, and the use and figure of every part or organ. Accuracy is, in every case, advantageous to beauty, and just reasoning to delicate sentiment. In vain would we exalt the one by depreciating the other.

Besides, we may observe, in every art or profession, even those which most concern life or action, that a spirit of accuracy, however acquired, carries all of them nearer their perfection, and renders them more subservi-

ent to the interests of society. And though a philosopher may live remote from business, the genius of philosophy, if carefully cultivated by several, must gradually diffuse itself throughout the whole society, and bestow a similar correctness on every art or calling. The politician will acquire greater foresight and subtilty in the subdividing and balancing of power; the lawyer more method and finer principles in his reasonings; and the general more regularity in his discipline, and more caution in his plans and operations. The stability of modern governments above the ancient, and the accuracy of modern philosophy, have improved, and probably will still improve, by similar gradations.

Were there no advantage to be reaped from these studies beyond the gratification of an innocent curiosity, yet ought not even this to be despised, as being an accession to those few safe and harmless pleasures which are bestowed on the human race. The sweetest and most inoffensive path of life leads through the avenues of science and learning; and whoever can either remove any obstructions in this way, or open up any new prospect, ought so far to be esteemed a benefactor to mankind. And though these researches may appear painful and fatiguing, it is with some minds as with some bodies, which, being endowed with vigorous and florid health, require severe exercise, and reap a pleasure from what, to the generality of mankind, may seem burdensome and laborious. Obscurity, indeed, is painful to the mind as well as to the eye; but, to bring light from obscurity, by whatever labor, must needs be delightful and rejoicing.

But this obscurity, in the profound and abstract philosophy, is objected to, not only as painful and fatiguing, but as the inevitable source of uncertainty and error.

Here, indeed, lies the justest and most plausible objection against a considerable part of metaphysics, that they are not properly a science, but arise either from the fruitless efforts of human vanity, which would penetrate into subjects utterly inaccessible to the understanding, or from the craft of popular superstitions, which, being unable to defend themselves on fair ground, raise these entangling brambles to cover and protect their weakness. Chased from the open country, these robbers fly into the forest, and lie in wait to break in upon every unguarded avenue of the mind, and overwhelm it with religious fears and prejudices. The stoutest antagonist, if he remit his watch a moment, is oppressed; and many, through cowardice and folly, open the gates to the enemies, and willingly receive them with reverence and submission as their legal sovereigns.

But is this a sufficient reason why philosophers should desist from such researches, and leave superstition still in possession of her retreat? Is it not proper to draw an opposite conclusion, and perceive the necessity of carrying the war into the most secret recesses of the enemy? In vain do we hope, that men, from frequent disappointment, will at last abandon such airy sciences, and discover the proper province of human reason; for, besides that many persons find too sensible an interest in perpetually recalling such topics, besides this, I say the motive of blind despair can never reasonably have place in the sciences; since, however unsuccessful former attempts may have proved, there is still room to hope, that the industry, good fortune, or improved sagacity of succeeding generations, may reach discoveries unknown to former ages. Each adventurous genius will still leap at the arduous prize, and find himself stimulated, rather

than discouraged, by the failures of his predecessors; while he hopes that the glory of achieving so hard an adventure is reserved for him alone. The only method of freeing learning at once from these abstruse questions, is to inquire seriously into the nature of human understanding, and show, from an exact analysis of its powers and capacity, that it is by no means fitted for such remote and abstruse subjects. We must submit to this fatigue, in order to live at ease ever after; and must cultivate true metaphysics with some care, in order to destroy the false and adulterated. Indolence, which to some persons affords a safeguard against this deceitful philosophy, is, with others, overbalanced by curiosity; and despair, which at some moments prevails, may give place afterwards to sanguine hopes and expectations. Accurate and just reasoning is the only Catholic remedy fitted for all persons and all dispositions, and is alone able to subvert that abstruse philosophy and metaphysical jargon, which, being mixed up with popular superstition, renders it in a manner impenetrable to careless reasoners, and gives it the air of science and wisdom.

Besides this advantage of rejecting, after deliberate inquiry, the most uncertain and disagreeable part of learning, there are many positive advantages which result from an accurate scrutiny into the powers and faculties of human nature. It is remarkable, concerning the operations of the mind, that, though most intimately present to us, yet, whenever they become the object of reflection, they seem involved in obscurity; nor can the eye readily find those lines and boundaries which discriminate and distinguish them. The objects are too fine to remain long in the same aspect or situation; and must be apprehended in an instant, by a supe-

rior penetration, derived from nature, and improved by habit and reflection. It becomes, therefore, no inconsiderable part of science, barely to know the different operations of the mind, to separate them from each other, to class them under their proper heads, and to correct all that seeming disorder in which they lie involved, when made the object of reflection and inquiry. This task of ordering and distinguishing, which has no merit when performed with regard to external bodies, the objects of our senses rises in its value, when directed towards the operations of the mind, in proportion to the difficulty and labor which we meet with in performing it. And if we can go no further than this mental geography, or delineation of the distinct parts and powers of the mind, it is at least a satisfaction to go so far; and the more obvious this science may appear (and it is by no means obvious), the more contemptible still must the ignorance of it be esteemed, in all pretenders to learning and philosophy.

Nor can there remain any suspicion that this science is uncertain and chimerical, unless we should entertain such a scepticism as is entirely subversive of all speculation, and even action. It cannot be doubted that the mind is endowed with several powers and faculties; that these powers are distinct from each other; that what is really distinct to the immediate perception may be distinguished by reflection; and consequently, that there is a truth and falshood in all propositions on this subject, and a truth and falsehood which lie not beyond the compass of human understanding. There are many obvious distinctions of this kind, such as those between the will and understanding, the imagination and passions, which fall within the comprehension of every human creature; and the finer and more philosophical distinc-

tions are no less real and certain, though more difficult to be comprehended. Some instances, especially late ones, of success in these inquiries, may give us a juster notion of the certainty and solidity of this branch of learning. And shall we esteem it worthy the labor of a philosopher to give us a true system of the planets, and adjust the position and order of those remote bodies, while we affect to overlook those who, with so much success, delineate the parts of the mind, in which we are so intimately concerned?*

* That faculty by which we discern truth and falsehood, and that by which we perceive vice and virtue, had long been confounded with each other; and all morality was supposed to be built on eternal and immutable relations, which, to every intelligent mind, were equally invariable as any proposition concerning quantity or number. But a late philosopher† has taught us, by the most convincing arguments, that morality is nothing in the abstract nature of things, but is entirely relative to the sentiment, or mental taste of each particular being; in the same manner as the distinctions of sweet and bitter, hot and cold, arise from the particular feeling of each sense or organ. Moral perceptions, therefore, ought not to be classed with the operations of the understanding, but with the tastes or sentiments.

It had been usual with philosophers to divide all the passions of the mind into two classes, the selfish and benevolent, which were supposed to stand in constant opposition and contrariety; nor was it thought that the latter could ever attain their proper object but at the expense of the former. Among the selfish passions were ranked avarice, ambition, revenge. Among the benevolent, natural affection, friendship, public spirit. Philosophers may now‡ perceive the impropriety of this division. It has been proved, beyond all controversy, that even the passions, commonly esteemed selfish, carry the mind beyond self, directly to the object; that though the satisfaction of these passions gives us enjoyment, yet the prospect of this enjoyment is not the cause of the passion, but, on the contrary, the passion is antecedent to the enjoyment, and without the former the latter could never possibly exist; that the case is precisely the same with the passions denominated benevolent, and consequently that a man is no more interested when he seeks his own glory than when the happiness of his friend is the object of his wishes; nor is he any more disinterested when he sacrifices his ease and quiet to public good, than when he labors for the gratification of avarice or ambition. Here, therefore, is a con-

† Mr. Hutcheson.

‡ See Butler's Sermons.

But may we not hope that philosophy, if cultivated with care, and encouraged by the attention of the public, may carry its researches still further, and discover, at least in some degree, the secret springs and principles by which the human mind is actuated in its operation? Astronomers had long contented themselves with proving, from the phenomena, the true motions, order, and magnitude of the heavenly bodies, till a philosopher at last arose, who seems, from the happiest reasoning, to have also determined the laws and forces by which the revolutions of the planets are governed and directed. The like has been performed with regard to other parts of nature. And there is no reason to despair of equal success in our inquiries concerning the mental powers and economy, if prosecuted with equal capacity and caution. It is probable that one operation and principle of the mind depends on another; which again may be resolved into one more general and universal: and how far these researches may possibly be carried, it will be difficult for us, before or even after a careful trial, exactly to determine. This is certain, that attempts of this kind are every day made, even by those who philosophize the most negligently; and nothing can be more requisite than to enter upon the enterprise with thorough care and attention, that, if it lie within the compass of human understanding, it may at last be happily achieved; if not, it may, however, be rejected with some confidence and security. This last conclusion, surely, is not desirable, nor ought it to be embraced too rashly. For how much must we diminish from the beauty and value

considerable adjustment in the boundaries of the passions, which had been confounded by the negligence or inaccuracy of former philosophers. These two instances may suffice to show us the nature and importance of this species of philosophy. — Note in EDITIONS K and L.

of this species of philosophy, upon such a supposition? Moralists have hitherto been accustomed, when they considered the vast multitude and diversity of those actions that excite our approbation or dislike, to search for some common principle on which this variety of sentiments might depend. And though they have sometimes carried the matter too far, by their passion for some one general principle, it must, however, be confessed, that they are excusable in expecting to find some general principles into which all the vices and virtues were justly to be resolved. The like has been the endeavor of critics, logicians, and even politicians: nor have their attempts been wholly unsuccessful, though perhaps longer time, greater accuracy, and more ardent application, may bring these sciences still nearer their perfection. To throw up at once all pretensions of this kind, may justly be deemed more rash, precipitate, and dogmatical, than even the boldest and most affirmative philosophy that has ever attempted to impose its crude dictates and principles on mankind.

What though these reasonings concerning human nature seem abstract, and of difficult comprehension, this affords no presumption of their falsehood. On the contrary, it seems impossible, that what has hitherto escaped so many wise and profound philosophers, can be very obvious and easy. And whatever pains these researches may cost us, we may think ourselves sufficiently rewarded, not only in point of profit but of pleasure, if, by that means, we can make any addition to our stock of knowledge in subjects of such unspeakable importance.

But as, after all, the abstractedness of these speculations is no recommendation, but rather a disadvantage to them; and as this difficulty may perhaps be sur-

mounted by care and art, and the avoiding of all unnecessary detail, we have, in the following Inquiry, attempted to throw some light upon subjects from which uncertainty has hitherto deterred the wise, and obscurity the ignorant. Happy if we can unite the boundaries of the different species of philosophy, by reconciling profound inquiry with clearness, and truth with novelty! And still more happy, if, reasoning in this easy manner, we can undermine the foundations of an abstruse philosophy, which seems to have hitherto served only as a shelter to superstition, and a cover to absurdity and error!

SECTION II.

OF THE ORIGIN OF IDEAS.

EVERY one will readily allow, that there is a considerable difference between the perceptions of the mind, when a man feels the pain of excessive heat, or the pleasure of moderate warmth; and when he afterwards recalls to his memory this sensation, or anticipates it by his imagination. These faculties may mimic or copy the perceptions of the senses, but they never can entirely reach the force and vivacity of the original sentiment. The utmost we say of them, even when they operate with greatest vigor, is, that they represent their object in so lively a manner, that we could *almost* say we feel or see it: but, except the mind be disordered by disease or madness, they never can arrive at such a pitch of vivacity, as to render these perceptions altogether undistinguishable. All the colors of poetry, however splendid, can never paint natural objects in such a manner as to make the description be taken for a real landscape. The most lively thought is still inferior to the dullest sensation.

We may observe a like distinction to run through all the other perceptions of the mind. A man in a fit of anger is actuated in a very different manner from one who only thinks of that emotion. If you tell me that

any person is in love, I easily understand your meaning, and form a just conception of his situation; but never can mistake that conception for the real disorders and agitations of the passion. When we reflect on our past sentiments and affections, our thought is a faithful mirror, and copies its objects truly; but the colors which it employs are faint and dull, in comparison of those in which our original perceptions were clothed. It requires no nice discernment or metaphysical head to mark the distinction between them.

Here, therefore, we may divide all the perceptions of the mind into two classes or species, which are distinguished by their different degrees of force and vivacity. The less forcible and lively are commonly denominated THOUGHTS OR IDEAS. The other species want a name in our language, and in most others; I suppose, because it was not requisite for any, but philosophical purposes, to rank them under a general term or appellation. Let us, therefore, use a little freedom, and call them IMPRESSIONS; employing that word in a sense somewhat different from the usual. By the term *impression*, then, I mean all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will. And impressions are distinguished from ideas, which are the less lively perceptions, of which we are conscious, when we reflect on any of those sensations or movements above mentioned.

Nothing, at first view, may seem more unbounded than the thought of man; which not only escapes all human power and authority, but is not even restrained within the limits of nature and reality. To form monsters and join incongruous shapes and appearances, costs the imagination no more trouble than to conceive the most natural and familiar objects. And while the body

is confined to one planet, along which it creeps with pain and difficulty, the thought can in an instant transport us into the most distant regions of the universe, or even beyond the universe, into the unbounded chaos, where nature is supposed to lie in total confusion. What never was seen or heard of, may yet be conceived ; nor is any thing beyond the power of thought, except what implies an absolute contradiction.

But though our thought seems to possess this unbounded liberty, we shall find upon a nearer examination, that it is really confined within very narrow limits, and that all this creative power of the mind amounts to no more than the faculty of compounding, transposing, augmenting, or diminishing the materials afforded us by the senses and experience. When we think of a golden mountain, we only join two consistent ideas, *gold* and *mountain*, with which we were formerly acquainted. A virtuous horse we can conceive ; because, from our own feeling, we can conceive virtue ; and this we may unite to the figure and shape of a horse, which is an animal familiar to us. In short, all the materials of thinking are derived either from our outward or inward sentiment : the mixture and composition of these belongs alone to the mind and will : or, to express myself in philosophical language, all our ideas or more feeble perceptions are copies of our impressions or more lively ones.

To prove this, the two following arguments will, I hope, be sufficient. *First*, When we analyze our thoughts or ideas, however compounded or sublime, we always find that they resolve themselves into such simple ideas as were copied from a precedent feeling or sentiment. Even those ideas, which at first view, seem the most wide of this origin, are found, upon a nearer scrutiny, to be derived from it. The idea of God, as meaning an

infinitely intelligent, wise, and good Being, arises from reflecting on the operations of our own mind, and augmenting, without limit, those qualities of goodness and wisdom. We may prosecute this inquiry to what length we please ; where we shall always find, that every idea which we examine is copied from a similar impression. Those who would assert, that this position is not universally true, nor without exception, have only one, and that an easy method of refuting it ; by producing that idea, which, in their opinion, is not derived from this source. It will then be incumbent on us, if we would maintain our doctrine, to produce the impression or lively perception which corresponds to it.

Secondly, If it happens, from a defect of the organ, that a man is not susceptible of any species of sensation, we always find that he is as little susceptible of the correspondent ideas. A blind man can form no notion of colors ; a deaf man of sounds. Restore either of them that sense in which he is deficient ; by opening this new inlet for his sensations, you also open an inlet for the ideas ; and he finds no difficulty in conceiving these objects. The case is the same, if the object proper for exciting any sensation has never been applied to the organ. A Laplander or Negro has no notion of the relish of wine. And though there are few or no instances of a like deficiency in the mind, where a person has never felt, or is wholly incapable of a sentiment or passion that belongs to his species, yet we find the same observation to take place in a less degree. A man of mild manners can form no idea of inveterate revenge or cruelty ; nor can a selfish heart easily conceive the heights of friendship and generosity. It is readily allowed, that other beings may possess many senses of which we can have no conception ; because the ideas of

them have never been introduced to us, in the only manner by which an idea can have access to the mind, to wit, by the actual feeling and sensation.

There is, however, one contradictory phenomenon, which may prove, that it is not absolutely impossible for ideas to arise, independent of their correspondent impressions. I believe it will readily be allowed, that the several distinct ideas of color, which enter by the eye, or those of sound, which are conveyed by the ear, are really different from each other, though, at the same time, resembling. Now, if this be true of different colors, it must be no less so of the different shades of the same color; and each shade produces a distinct idea, independent of the rest. For if this should be denied, it is possible, by the continual gradation of shades, to run a color insensibly into what is most remote from it; and if you will not allow any of the means to be different, you cannot, without absurdity, deny the extremes to be the same. Suppose, therefore, a person to have enjoyed his sight for thirty years, and to have become perfectly acquainted with colors of all kinds, except one particular shade of blue, for instance, which it never has been his fortune to meet with; let all the different shades of that color, except that single one, be placed before him, descending gradually from the deepest to the lightest; it is plain, that he will perceive a blank where that shade is wanting, and will be sensible that there is a greater distance in that place between the contiguous colors than in any other. Now I ask, whether it be possible for him, from his own imagination, to supply this deficiency, and raise up to himself the idea of that particular shade, though it had never been conveyed to him by his senses? I believe there are few but will be of opinion that he can; and this may serve as a

proof, that the simple ideas are not always, in every instance, derived from the correspondent impressions, though this instance is so singular, that it is scarcely worth our observing, and does not merit, that for it alone we should alter our general maxim.

Here, therefore, is a proposition, which not only seems in itself simple and intelligible, but, if a proper use were made of it, might render every dispute equally intelligible, and banish all that jargon which has so long taken possession of metaphysical reasonings, and drawn disgrace upon them. All ideas, especially abstract ones, are naturally faint and obscure. The mind has but a slender hold of them. They are apt to be confounded with some resembling ideas, and when we have often employed any term, though without a distinct meaning, we are apt to imagine it has a determinate idea annexed to it. On the contrary, all impressions, that is, all sensations either outward or inward, are strong and vivid. The limits between them are more exactly determined; nor is it easy to fall into any error or mistake with regard to them. When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea, (as is but too frequent,) we need but inquire, *from what impression is that supposed idea derived?* And if it be impossible to assign any, this will serve to confirm our suspicion. By bringing ideas in so clear a light, we may reasonably hope to remove all dispute, which may arise concerning their nature and reality.*

* It is probable that no more was meant by those who denied innate ideas, than that all ideas were copies of our impressions; though it must be confessed, that the terms which they employed were not chosen with such caution, nor so exactly defined, as to prevent all mistakes about their doctrine. For what is meant by *innate*? If innate be equivalent to natural, then all the per-

ceptions and ideas of the mind must be allowed to be innate or natural, in whatever sense we take the latter word, whether in opposition to what is uncommon, artificial, or miraculous. If by innate be meant contemporary to our birth, the dispute seems to be frivolous; nor is it worth while to inquire at what time thinking begins, whether before, at, or after our birth. Again, the word *idea* seems to be commonly taken in a very loose sense by Locke and others, as standing for any of our perceptions, our sensations and passions, as well as thoughts. Now, in this sense, I should desire to know what can be meant by asserting that self-love, or resentment of injuries, or the passion between the sexes, is not innate?

But admitting these terms, *impressions* and *ideas*, in the sense above explained, and understanding by *innate* what is original or copied from no precedent perception, then may we assert, that all our impressions are innate, and our ideas not innate.

To be ingenuous, I must own it to be my opinion, that Locke was betrayed into this question by the schoolmen, who, making use of undefined terms, draw out their disputes to a tedious length, without ever touching the point in question. A like ambiguity and circumlocution seems to run through that philosopher's reasonings, on this as well as most other subjects.

SECTION III.

OF THE ASSOCIATION OF IDEAS.

It is evident, that there is a principle of connection between the different thoughts or ideas of the mind, and that, in their appearance to the memory or imagination, they introduce each other with a certain degree of method and regularity. In our more serious thinking or discourse, this is so observable, that any particular thought, which breaks in upon the regular tract or chain of ideas, is immediately remarked and rejected. And even in our wildest and most wandering reveries, nay, in our very dreams, we shall find, if we reflect, that the imagination ran not altogether at adventures, but that there was still a connection upheld among the different ideas which succeeded each other. Were the loosest and freest conversation to be transcribed, there would immediately be observed something which connected it in all its transitions. Or where this is wanting, the person who broke the thread of discourse might still inform you, that there had secretly revolved in his mind a succession of thought, which had gradually led him from the subject of conversation. Among different languages, even when we cannot suspect the least connection or communication, it is found, that the words

expressive of ideas the most compounded, do yet nearly correspond to each other; a certain proof that the simple ideas comprehended in the compound ones were bound together by some universal principle, which had an equal influence on all mankind.

Though it be too obvious to escape observation, that different ideas are connected together, I do not find that any philosopher has attempted to enumerate or class all the principles of association; a subject, however, that seems worthy of curiosity. To me there appear to be only three principles of connection among ideas, namely, *Resemblance*, *Contiguity* in time or place, and *Cause* or *Effect*.

That these principles serve to connect ideas, will not, I believe, be much doubted. A picture naturally leads our thoughts to the original.* The mention of one apartment in a building naturally introduces an inquiry or discourse concerning the others; † and if we think of a wound, we can scarcely forbear reflecting on the pain which follows it. ‡ But that this enumeration is complete, and that there are no other principles of association except these, may be difficult to prove to the satisfaction of the reader, or even to a man's own satisfaction. All we can do, in such cases, is to run over several instances, and examine carefully the principle which binds the different thoughts to each other, never stopping till we render the principle as general as possible. § The more instances we examine, and the more care we

* Resemblance.

† Contiguity.

‡ Cause and Effect.

§ For instance, Contrast or Contrariety, is also a connection among ideas, but it may perhaps be considered as a mixture of *Causation* and *Resemblance*. Where two objects are contrary, the one destroys the other; that is, the cause of its annihilation, and the idea of the annihilation of an object, implies the idea of its former existence.

employ, the more assurance shall we acquire, that the enumeration which we form from the whole is complete and entire.*

* This Essay, as it stands in EDITIONS K, L, N, thus continues.

Instead of entering into a detail of this kind, which would lead us into many useless subtleties, we shall consider some of the effects of this connection upon the passions and imagination; where we may open up a field of speculation more entertaining, and perhaps more instructive, than the other.

As man is a reasonable being, and is continually in pursuit of happiness, which he hopes to find in the gratification of some passion or affection, he seldom acts, or speaks, or thinks, without a purpose and intention. He has still some object in view; and however improper the means may sometimes be, which he chooses for the attainment of his end, he never loses view of an end, nor will he so much as throw away his thoughts or reflections, where he hopes not to reap any satisfaction from them.

In all compositions of genius, therefore, it is requisite that the writer have some plan or object; and though he may be hurried from this plan by the vehemence of thought, as in an ode, or drop it carelessly as in an epistle or essay, there must appear some aim or intention, in his first setting out, if not in the composition of the whole work. A production without a design would resemble more the ravings of a madman, than the sober efforts of genius and learning.

As this rule admits of no exception, it follows, that in narrative compositions, the events or actions which the writer relates, must be connected together by some bond or tie: they must be related to each other in the imagination, and form a kind of *unity*, which may bring them under one plan or view, and which may be the object or end of the writer in his first undertaking.

This connecting principle, among the several events which form the subject of a poem or history, may be very different, according to the different designs of the poet or historian. Ovid has formed his plan upon the connecting principle of resemblance. Every fabulous transformation, produced by the miraculous power of the gods, falls within the compass of his work. There needs but this one circumstance in any event, to bring it under his original plan or intention.

An annalist or historian, who should undertake to write the history of Europe during any century, would be influenced by the connection of contiguity in time or place. All events which happen in that portion of space, and period of time, are comprehended in his design, though in other respects different and unconnected. They have still a species of unity, amidst all their diversity.

But the most usual species of connection among the different events, which enter into any narrative composition, is that of cause and effect; while the

historian traces the series of actions according to their natural order, remounts to their secret springs and principles, and delineates their most remote consequences. He chooses for his subject a certain portion of that great chain of events, which compose the history of mankind: each link in this chain he endeavors to touch in his narration: sometimes unavoidable ignorance renders all his attempts fruitless: sometimes he supplies by conjecture what is wanting in knowledge: and always, he is sensible that the more unbroken the chain is, which he presents to his readers, the more perfect is his production. He sees, that the knowledge of causes is not only the most satisfactory, this relation or connection being the strongest of all others, but also the most instructive; since it is by this knowledge alone we are enabled to control events and govern futurity.

Here, therefore, we may attain some notion of that *unity of action*, about which all critics, after Aristotle, have talked so much; perhaps to little purpose, while they directed not their taste or sentiment by the accuracy of philosophy. It appears that, in all productions, as well as in the epic and tragic, there is a certain unity required, and that, on no occasion, our thoughts can be allowed to run at adventures, if we would produce a work that will give any lasting entertainment to mankind. It appears also, that even a biographer, who should write the life of Achilles, would connect the events by showing their mutual dependence and relation, as much as a poet, who should make the anger of that hero the subject of his narration.* Nor only in any limited portion of life, a man's actions have a dependence on each other, but also during the whole period of his duration from the cradle to the grave; nor is it possible to strike off one link, however minute, in this regular chain, without affecting the whole series of events which follow. The unity of action, therefore, which is to be found in biography or history, differs from that of epic poetry, not in kind, but in degree. In epic poetry, the connection among the events is more close and sensible; the narration is not carried on through such a length of time; and the actors hasten to some remarkable period, which satisfies the curiosity of the reader. This conduct of the epic poet depends on that particular situation of the imagination and of the passions, which is supposed in that production. The imagination, both of writer and reader, is more enlivened, and the passions more inflamed than in history, biography, or any species of narration, that confine themselves to strict truth and reality. Let us consider the effect of these two circumstances, of an enlivened imagination and inflamed passions, which belong to poetry, especially the epic kind, above any other species of composition; and let us see for what reason they require a stricter and closer unity in the fable.

First, All poetry being a species of painting, approaches us nearer to the

* Contrary to Aristotle, *Μῦθος δ' ἐστὶν εἰς οἶχ, ὥσπερ τινὲς οἰοῦνται, ἐν περι, εἶνα ἢ· πολλὰ γὰρ, καὶ ἄπειρα τῷ γένει συμβαίνει ἐξ ὧν ἐνίῳν οὐδέν ἐστιν ἐν. Ὅντω δὲ καὶ πράξεις ἐνὸς πολλαί εἰσιν, ἐξ ὧν μία οὐδεμία γίνεται πράξις, &c. Πουητ. Κεφ. η.*

objects than any other species of narration, throws a stronger light upon them, and delineates more distinctly those minute circumstances, which, though to the historian they seem superfluous, serve mightily to enliven the imagery and gratify the fancy. If it be not necessary, as in the *Iliad*, to inform us each time the hero buckles his shoes and ties his garters, it will be requisite, perhaps, to enter into a greater detail than in the *Henriade*; where the events are run over with such rapidity, that we scarce have leisure to become acquainted with the scene or action. Were a poet, therefore, to comprehend in his subject any great compass of time or series of events, and trace up the death of Hector to its remote causes, in the rape of Helen, or the judgment of Paris, he must draw out his poem to an immeasurable length, in order to fill this large canvas with just painting and imagery. The reader's imagination, inflamed with such a series of poetical descriptions, and his passions, agitated by a continual sympathy with the actors, must flag long before the period of narration, and must sink into lassitude and disgust, from the repeated violence of the same movements.

Secondly, That an epic poet must not trace the causes to any great distance, will further appear, if we consider another reason, which is drawn from a property of the passions still more remarkable and singular. It is evident, that in a just composition, all the affections excited by the different events described and represented, add mutual force to each other; and that, while the heroes are all engaged in one common scene, and each action is strongly connected with the whole, the concern is continually awake, and the passions make an easy transition from one object to another. The strong connection of the events, as it facilitates the passage of the thought or imagination, from one to another, facilitates also the transfusion of the passions, and preserves the affection still in the same channel and direction. Our sympathy and concern for Eve prepares the way for a like sympathy with Adam: the affection is preserved almost entire in the transition; and the mind seizes immediately the new object, as strongly related to that which formerly engaged its attention. But were the poet to make a total digression from his subject, and introduce a new actor, no way connected with the personages, the imagination, feeling a breach in the transition, would enter coldly into the new scene; would kindle by slow degrees; and in returning to the main subject of the poem, would pass, as it were, upon foreign ground, and have its concern to excite anew, in order to take party with the principal actors. The same inconvenience follows in a lesser degree, where the poet traces his events to too great a distance, and binds together actions, which, though not altogether disjointed, have not so strong a connection as is requisite to forward the transition of the passions. Hence arises the artifice of oblique narration, employed in the *Odyssey* and *Æneid*; where the hero is introduced, at first, near the period of his designs, and afterwards shows us, as it were in perspective, the more distant events and causes. By this means, the reader's curiosity is immediately excited: the events follow with rapidity, and in a very close connection: and the concern is preserved alive, and continually increases by means of

the near relation of the objects, from the beginning to the end of the narration.

The same rule takes place in dramatic poetry ; nor is it ever permitted in a regular composition, to introduce an actor who has no connection, or but a small one, with the principal personages of the fable. The spectator's concern must not be diverted by any scenes disjoined and separate from the rest. This breaks the course of the passions, and prevents that communication of the several emotions, by which one scene adds force to another, and transfuses the pity and terror it excites upon each succeeding scene, until the whole produces that rapidity of movement, which is peculiar to the theatre. How must it extinguish this warmth of affection to be entertained, on a sudden, with a new action and new personages, no way related to the former ; to find so sensible a breach or vacuity in the course of the passions, by means of this breach in the connection of ideas ; and instead of carrying the sympathy of one scene into the following, to be obliged every moment, to excite a new concern, and take party in a new scene of action ?

But though this rule of unity of action be common to dramatic and epic poetry ; we may still observe a difference betwixt them, which may, perhaps, deserve our attention. In both these species of composition, it is requisite the action be one and simple, in order to preserve the concern or sympathy entire and undiverted : but in epic or narrative poetry, this rule is also established upon another foundation, viz. the necessity that is incumbent on every writer to form some plan or design, before he enter on any discourse or narration, and to comprehend his subject in some general aspect or united view, which may be the constant object of his attention. As the author is entirely lost in dramatic compositions, and the spectator supposes himself to be really present at the actions represented ; this reason has no place with regard to the stage ; but any dialogue or conversation may be introduced, which, without improbability, might have passed in that determinate portion of space, represented by the theatre. Hence, in all our English comedies, even those of Congreve, the unity of action is never strictly observed ; but the poet thinks it sufficient, if his personages be any way related to each other, by blood, or by living in the same family ; and he afterwards introduces them in particular scenes, where they display their humors and characters, without much forwarding the main action. The double plots of Terence are licenses of the same kind ; but in a lesser degree. And though this conduct be not perfectly regular, it is not wholly unsuitable to the nature of comedy, where the movements and passions are not raised to such a height as in tragedy ; at the same time, that the fiction or representation palliates, in some degree, such licenses. In a narrative poem, the first proposition or design confines the author to one subject ; and any digressions of this nature would, at first view, be rejected as absurd and monstrous. Neither Boccace, la Fontaine, nor any author of that kind, though pleasantry be their chief object, have ever indulged them.

To return to the comparison of history and epic poetry, we may conclude, from the foregoing reasonings, that as a certain unity is requisite in all produc-

tions, it cannot be wanting to history more than to any other; that in history, the connection among the several events, which unites them into one body, is the relation of cause and effect, the same which takes place in epic poetry; and that, in the latter composition, this connection is only required to be closer and more sensible, on account of the lively imagination and strong passions, which must be touched by the poet in his narration. The Peloponnesian war is a proper subject for history, the siege of Athens for an epic poem, and the death of Alcibiades for a tragedy.

As the difference, therefore, betwixt history and epic poetry consists only in the degrees of connection, which bind together those several events of which their subject is composed, it will be difficult, if not impossible, by words, to determine exactly the bounds which separate them from each other. That is a matter of taste more than of reasoning; and perhaps, this unity may often be discovered in a subject, where, at first view, and from an abstract consideration, we should least expect to find it.

It is evident that Homer, in the course of his narration, exceeds the first proposition of his subject; and that the anger of Achilles, which caused the death of Hector, is not the same with that which produced so many ills to the Greeks. But the strong connection betwixt these two movements, the quick transition from one to the other, the contrast betwixt the effects of concord and discord amongst the princes, and the natural curiosity we have to see Achilles in action, after so long repose; all these causes carry on the reader, and produce a sufficient unity in the subject.

It may be objected to Milton, that he has traced up his causes to too great a distance, and that the rebellion of the angels produces the fall of man by a train of events, which is both very long and very casual. Not to mention that the creation of the world, which he has related at length, is no more the cause of that catastrophe, than of the battle of Pharsalia, or any other event that has ever happened. But if we consider, on the other hand, that all these events, the rebellion of the angels, the creation of the world, and the fall of man, *resemble* each other in being miraculous, and out of the common course of nature; that they are supposed to be *contiguous* in time; and that, being detached from all other events, and being the only original facts which revelation discovers, they strike the eye at once, and naturally recall each other to the thought or imagination. If we consider all these circumstances, I say, we shall find, that these parts of the action have a sufficient unity to make them be comprehended in one fable or narration. To which we may add, that the rebellion of the angels and the fall of man have a peculiar resemblance, as being counterparts to each other, and presenting to the reader the same moral, of obedience to our Creator.

These loose hints I have thrown together, in order to excite the curiosity of philosophers, and beget a suspicion at least if not a full persuasion, that this subject is very copious, and that many operations of the human mind depend on the connection or association of ideas, which is here explained. Particularly, the sympathy betwixt the passions and imaginations, will, perhaps,

appear remarkable; while we observe that the affections, excited by one object, pass easily to another connected with it; but transfuse themselves with difficulty, or not at all, along different objects, which have no manner of connection together. By introducing into any composition, personages and actions foreign to each other, an injudicious author loses that communication of emotions, by which alone he can interest the heart, and raise the passions to their proper height and period. The full explication of this principle and all its consequences, would lead us into reasonings too profound and too copious for these Essays. It is sufficient for us, at present, to have established this conclusion, that the three connecting principles of all ideas, are the relations of *resemblance, contiguity, and causation.*

SECTION IV.

SCEPTICAL DOUBTS CONCERNING THE OPERATIONS OF THE UNDERSTANDING.

PART I.

ALL the objects of human reason or inquiry may naturally be divided into two kinds, to wit, *Relations of Ideas*, and *Matters of Fact*. Of the first kind are the sciences of Geometry, Algebra, and Arithmetic, and, in short, every affirmation which is either intuitively or demonstratively certain. *That the square of the hypotenuse is equal to the square of the two sides*, is a proposition which expresses a relation between these figures. *That three times five is equal to the half of thirty*, expresses a relation between these numbers. Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty and evidence.

Matters of fact, which are the second objects of human reason, are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature with the foregoing. The contrary of every

matter of fact is still possible, because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality. *That the sun will not rise to-morrow*, is no less intelligible a proposition, and implies no more contradiction, than the affirmation, *that it will rise*. We should in vain, therefore, attempt to demonstrate its falsehood. Were it demonstratively false, it would imply a contradiction, and could never be distinctly conceived by the mind.

It may therefore be a subject worthy of curiosity, to inquire what is the nature of that evidence, which assures us of any real existence and matter of fact, beyond the present testimony of our senses, or the records of our memory. This part of philosophy, it is observable, had been little cultivated either by the ancients or moderns; and therefore our doubts and errors, in the prosecution of so important an inquiry, may be the more excusable, while we march through such difficult paths without any guide or direction. They may even prove useful, by exciting curiosity, and destroying that implicit faith and security which is the bane of all reasoning and free inquiry. The discovery of defects in the common philosopher, if any such there be, will not, I presume, be a discouragement, but rather an incitement, as is usual, to attempt something more full and satisfactory than has yet been proposed to the public.

All reasonings concerning matter of fact seem to be founded on the relation of *Cause and Effect*. By means of that relation alone we can go beyond the evidence of our memory and senses. If you were to ask a man why he believes any matter of fact which is absent, for instance, that his friend is in the country or in France,

he would give you a reason, and this reason would be some other fact: as a letter received from him, or the knowledge of his former resolutions and promises. A man, finding a watch or any other machine in a desert island, would conclude that there had once been men in that island. All our reasonings concerning fact are of the same nature. And here it is constantly supposed, that there is a connection between the present fact and that which is inferred from it. Were there nothing to bind them together, the inference would be entirely precarious. The hearing of an articulate voice and rational discourse in the dark, assures us of the presence of some person: why? because these are the effects of the human make and fabric, and closely connected with it. If we anatomize all the other reasonings of this nature, we shall find, that they are founded on the relation of cause and effect, and that this relation is either near or remote, direct or collateral. Heat and light are collateral effects of fire, and the one effect may justly be inferred from the other.

If we would satisfy ourselves, therefore, concerning the nature of that evidence which assures us of matters of fact, we must inquire how we arrive at the knowledge of cause and effect.

I shall venture to affirm, as a general proposition which admits of no exception, that the knowledge of this relation is not, in any instance, attained by reasonings *à priori*; but arises entirely from experience, when we find, that any particular objects are constantly conjoined with each other. Let an object be presented to a man of ever so strong natural reason and abilities; if that object be entirely new to him, he will not be able, by the most accurate examination of its sensible qualities, to discover any of its causes or effects. Adam,

though his rational faculties be supposed, at the very first, entirely perfect, could not have inferred from the fluidity and transparency of water, that it would suffocate him ; or from the light and warmth of fire that it would consume him. No object ever discovers, by the qualities which appear to the senses, either the causes which produced it, or the effects which will arise from it ; nor can our reason, unassisted by experience, ever draw any inference concerning real existence and matter of fact.

This proposition, *that causes and effects are discoverable, not by reason, but by experience*, will readily be admitted with regard to such objects as we remember to have once been altogether unknown to us ; since we must be conscious of the utter inability which we then lay under of foretelling what would arise from them. Present two smooth pieces of marble to a man who has no tincture of natural philosophy ; he will never discover that they will adhere together in such a manner as to require great force to separate them in a direct line, while they make so small a resistance to a lateral pressure. Such events as bear little analogy to the common course of nature, are also readily confessed to be known only by experience ; nor does any man imagine that the explosion of gunpowder, or the attraction of a loadstone, could ever be discovered by arguments *à priori*. In like manner, when an effect is supposed to depend upon an intricate machinery or secret structure of parts, we make no difficulty in attributing all our knowledge of it to experience. Who will assert that he can give the ultimate reason, why milk or bread is proper nourishment for a man, not for a lion or tiger ?

But the same truth may not appear at first sight to have the same evidence with regard to events, which

have become familiar to us from our first appearance in the world, which bear a close analogy to the whole course of nature, and which are supposed to depend on the simple qualities of objects, without any secret structure of parts. We are apt to imagine, that we could discover these effects by the mere operation of our reason without experience. We fancy, that were we brought on a sudden into this world, we could at first have inferred, that one billiard-ball would communicate motion to another upon impulse; and that we needed not to have waited for the event, in order to pronounce with certainty concerning it. Such is the influence of custom, that where it is strongest, it not only covers our natural ignorance, but even conceals itself, and seems not to take place, merely because it is found in the highest degree.

But to convince us, that all the laws of nature, and all the operations of bodies, without exception, are known only by experience, the following reflections may perhaps suffice. Were any object presented to us, and were we required to pronounce concerning the effect which will result from it, without consulting past observation; after what manner, I beseech you, must the mind proceed in this operation? It must invent or imagine some event which it ascribes to the object as its effect; and it is plain that this invention must be entirely arbitrary. The mind can never possibly find the effect in the supposed cause, by the most accurate scrutiny and examination. For the effect is totally different from the cause, and consequently can never be discovered in it. Motion in the second billiard-ball is a quite distinct event from motion in the first; nor is there any thing in the one to suggest the smallest hint of the other. A stone or piece of metal raised into the air,

and left without any support, immediately falls : but to consider the matter *à priori*, is there any thing we discover in this situation which can beget the idea of a downward, rather than an upward, or any other motion, in the stone or metal ?

And as the first imagination or invention of a particular effect, in all natural operations, is arbitrary, where we consult not experience ; so must we also esteem the supposed tie or connection between the cause and effect which binds them together, and renders it impossible, that any other effect could result from the operation of that cause. When I see, for instance, a billiard-ball moving in a straight line towards another ; even suppose motion in the second ball should by accident be suggested to me as the result of their contact or impulse ; may I not conceive that a hundred different events might as well follow from that cause ? May not both these balls remain at absolute rest ? May not the first ball return in a straight line, or leap off from the second in any line or direction ? All these suppositions are consistent and conceivable. Why then should we give the preference to one, which is no more consistent or conceivable than the rest ? All our reasonings *à priori* will never be able to show us any foundation for this preference.

In a word, then, every effect is a distinct event from its cause. It could not, therefore, be discovered in the cause ; and the first invention or conception of it, *à priori*, must be entirely arbitrary. And even after it is suggested, the conjunction of it with the cause must appear equally arbitrary ; since there are always many other effects, which, to reason, must seem fully as consistent and natural. In vain, therefore, should we pretend to determine any single event, or infer any cause or

effect, without the assistance of observation and experience.

Hence we may discover the reason, why no philosopher, who is rational and modest, has ever pretended to assign the ultimate cause of any natural operation, or to show distinctly the action of that power, which produces any single effect in the universe. It is confessed, that the utmost effort of human reason is, to reduce the principles productive of natural phenomena to a greater simplicity, and to resolve the many particular effects into a few general causes, by means of reasonings from analogy, experience, and observation. But as to the causes of these general causes, we should in vain attempt their discovery; nor shall we ever be able to satisfy ourselves by any particular explication of them. These ultimate springs and principles are totally shut up from human curiosity and inquiry. Elasticity, gravity, cohesion of parts, communication of motion by impulse; these are probably the ultimate causes and principles which we shall ever discover in nature; and we may esteem ourselves sufficiently happy, if, by accurate inquiry and reasoning, we can trace up the particular phenomena to, or near to, these general principles. The most perfect philosophy of the natural kind only staves off our ignorance a little longer; as perhaps the most perfect philosophy of the moral or metaphysical kind serves only to discover larger portions of it. Thus the observation of human blindness and weakness is the result of all philosophy, and meets us, at every turn, in spite of our endeavors to elude or avoid it.

Nor is geometry, when taken into the assistance of natural philosophy, ever able to remedy this defect, or lead us into the knowledge of ultimate causes, by all that

accuracy of reasoning for which it is so justly celebrated. Every part of mixed mathematics proceeds upon the supposition, that certain laws are established by Nature in her operations; and abstract reasonings are employed, either to assist experience in the discovery of these laws, or to determine their influence in particular instances, where it depends upon any precise degree of distance and quantity. Thus, it is a law of motion, discovered by experience, that the moment or force of any body in motion, is in the compound ratio or proportion of its solid contents and its velocity: and consequently, that a small force may remove the greatest obstacle, or raise the greatest weight, if by any contrivance or machinery we can increase the velocity of that force, so as to make it an overmatch for its antagonist. Geometry assists us in the application of this law, by giving us the just dimensions of all the parts and figures which can enter into any species of machine; but still the discovery of the law itself is owing merely to experience; and all the abstract reasonings in the world could never lead us one step towards the knowledge of it. When we reason *à priori*, and consider merely any object or cause, as it appears to the mind, independent of all observation, it never could suggest to us the notion of any distinct object, such as its effect; much less show us the inseparable and inviolable connection between them. A man must be very sagacious who could discover by reasoning, that crystal is the effect of heat, and ice of cold, without being previously acquainted with the operation of these qualities.

PART II.

But we have not yet attained any tolerable satisfaction with regard to the question first proposed. Each solution still gives rise to a new question as difficult as the foregoing, and leads us on to further inquiries. When it is asked, *What is the nature of all our reasonings concerning matter of fact?* the proper answer seems to be, That they are founded on the relation of cause and effect. When again it is asked, *What is the foundation of all our reasonings and conclusions concerning that relation?* it may be replied in one word, EXPERIENCE. But if we still carry on our sifting humor, and ask, *What is the foundation of all conclusions from experience?* this implies a new question, which may be of more difficult solution and explication. Philosophers ~~that~~ give themselves airs of superior wisdom and sufficiency, have a hard task when they encounter persons of inquisitive dispositions, who push them from every corner to which they retreat, and who are sure at last to bring them to some dangerous dilemma. The best expedient to prevent this confusion, is to be modest in our pretensions, and even to discover the difficulty ourselves before it is objected to us. By this means we may make a kind of merit of our very ignorance.

who

I shall content myself in this section with an easy task, and shall pretend only to give a negative answer to the question here proposed. I say then, that even after we have experience of the operations of cause and effect, our conclusions from that experience are *not* founded on reasoning, or any process of the understand-

ing. This answer we must endeavor both to explain and to defend.

It must certainly be allowed, that nature has kept us at a great distance from all her secrets, and has afforded us only the knowledge of a few superficial qualities of objects; while she conceals from us those powers and principles on which the influence of these objects entirely depends. Our senses inform us of the color, weight, and consistence of bread; but neither sense nor reason can ever inform us of those qualities which fit it for the nourishment and support of the human body. Sight or feeling conveys an idea of the actual motion of bodies, but as to that wonderful force or power which would carry on a moving body for ever in a continued change of place, and which bodies never lose but by communicating it to others; of this we cannot form the most distant conception. But notwithstanding this ignorance of natural powers* and principles, we always presume when we see like sensible qualities, that they have like secret powers, and expect that effects similar to those which we have experienced will follow from them. If a body of like color and consistence with that bread which we have formerly eat, be presented to us, we make no scruple of repeating the experiment, and foresee, with certainty, like nourishment and support. Now, this is a process of the mind or thought, of which I would willingly know the foundation. It is allowed on all hands, that there is no known connection between the sensible qualities and the secret powers; and consequently, that the mind is not led to form such a conclusion concerning their constant and regular conjunction,

* The word Power is here used in a loose and popular sense. The more accurate explication of it would give additional evidence to this argument. See Sect. vii.

by any thing which it knows of their nature. As to past *Experience*, it can be allowed to give *direct* and *certain* information of those precise objects only, and that precise period of time which fell under its cognizance : but why this experience should be extended to future times, and to other objects, which, for aught we know, may be only in appearance similar, this is the main question on which I would insist. The bread which I formerly eat nourished me ; that is, a body of such sensible qualities was, at that time, endued with such secret powers : but does it follow, that other bread must also nourish me at another time, and that like sensible qualities must always be attended with the like secret powers ? The consequence seems nowise necessary. At least, it must be acknowledged, that there is here a consequence drawn by the mind, that there is a certain step taken, a process of thought, and an inference which wants to be explained. These two propositions are far from being the same, *I have found that such an object has always been attended with such an effect*, and *I foresee, that other objects which are in appearance similar, will be attended with similar effects*. I shall allow, if you please, that the one proposition may justly be inferred from the other : I know, in fact, that it always is inferred. But if you insist that the inference is made by a chain of reasoning, I desire you to produce that reasoning. The connection between these propositions is not intuitive. There is required a medium, which may enable the mind to draw such an inference, if indeed it be drawn by reasoning and argument. What that medium is, I must confess passes my comprehension ; and it is incumbent on those to produce it who assert that it really exists, and is the original of all our conclusions concerning matter of fact.

This negative argument must certainly, in process of time, become altogether convincing, if many penetrating and able philosophers shall turn their inquiries this way ; and no one be ever able to discover any connecting proposition or intermediate step which supports the understanding in this conclusion. But as the question is yet new, every reader may not trust so far to his own penetration as to conclude, because an argument escapes his inquiry, that therefore it does not really exist. For this reason, it may be requisite to venture upon a more difficult task ; and, enumerating all the branches of human knowledge, endeavor to show, that none of them can afford such an argument.

All reasonings may be divided into two kinds, namely, demonstrative reasoning, or that concerning relations of ideas ; and moral reasoning, or that concerning matter of fact and existence. That there are no demonstrative arguments in the case, seems evident, since it implies no contradiction, that the course of nature may change, and that an object, seemingly like those which we have experienced, may be attended with different or contrary effects. May I not clearly and distinctly conceive, that a body, falling from the clouds, and which in all other respects resembles snow, has yet the taste of salt or feeling of fire ? Is there any more intelligible proposition than to affirm, that all the trees will flourish in December and January, and will decay in May and June ? Now, whatever is intelligible, and can be distinctly conceived, implies no contradiction, and can never be proved false by any demonstrative argument or abstract reasoning *à priori*.

If we be, therefore, engaged by arguments to put trust in past experience, and make it the standard of our future judgment, these arguments must be probable

only, or such as regard matter of fact and real existence, according to the division above mentioned. But that there is no argument of this kind, must appear, if our explication of that species of reasoning be admitted as solid and satisfactory. We have said that all arguments concerning existence are founded on the relation of cause and effect ; that our knowledge of that relation is derived entirely from experience ; and that all our experimental conclusions proceed upon the supposition, that the future will be conformable to the past. To endeavor, therefore, the proof of this last supposition by probable arguments, or arguments regarding existence, must be evidently going in a circle, and taking that for granted which is the very point in question.

In reality, all arguments from experience are founded on the similarity which we discover among natural objects, and by which we are induced to expect effects similar to those which we have found to follow from such objects. And though none but a fool or madman will ever pretend to dispute the authority of experience, or to reject that great guide of human life, it may surely be allowed a philosopher to have so much curiosity at least as to examine the principle of human nature which gives this mighty authority to experience, and makes us draw advantage from that similarity which nature has placed among different objects. From causes which appear similar, we expect similar effects. This is the sum of all our experimental conclusions. Now it seems evident, that if this conclusion were formed by reason, it would be as perfect at first, and upon one instance, as after ever so long a course of experience : but the case is far otherwise. Nothing so like as eggs ; yet no one, on account of this appearing similarity expects the same taste and relish in all of them. It is

only after a long course of uniform experiments in any kind, that we attain a firm reliance and security with regard to a particular event. Now, where is that process of reasoning, which from one instance, draws a conclusion so different from that which it infers from a hundred instances that are nowise different from that single one? This question I propose, as much for the sake of information, as with an intention of raising difficulties. I cannot find, I cannot imagine, any such reasoning. But I keep my mind still open to instruction, if any one will vouchsafe to bestow it on me.

Should it be said, that from a number of uniform experiments, we *infer* a connection between the sensible qualities and the secret powers, this, I must confess, seems the same difficulty, couched in different terms. The question still occurs, On what process of argument is this *inference* founded? Where is the medium, the interposing ideas, which join propositions so very wide of each other? It is confessed, that the color, consistence, and other sensible qualities of bread, appear not of themselves to have any connection with the secret powers of nourishment and support: for otherwise we could infer these secret powers from the first appearance of these sensible qualities, without the aid of experience, contrary to the sentiment of all philosophers, and contrary to plain matter of fact. Here then is our natural state of ignorance with regard to the powers and influence of all objects. How is this remedied by experience? It only shows us a number of uniform effects resulting from certain objects, and teaches us that those particular objects, at that particular time, were endowed with such powers and forces. When a new object, endowed with similar sensible qualities, is produced, we expect similar powers and forces, and look for a like effect.

From a body of like color and consistence with bread, we expect like nourishment and support. But this surely is a step or progress of the mind which wants to be explained. When a man says, *I have found, in all past instances, such sensible qualities, conjoined with such secret powers* ; and when he says, *similar sensible qualities will always be conjoined with similar secret powers* ; he is not guilty of a tautology, nor are these propositions in any respect the same. You say that the one proposition is an inference from the other : but you must confess that the inference is not intuitive, neither is it demonstrative. Of what nature is it then ? To say it is experimental, is begging the question. For all inferences from experience suppose, as their foundation, that the future will resemble the past, and that similar powers will be conjoined with similar sensible qualities. If there be any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless, and can give rise to no inference or conclusion. It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future : since all these arguments are founded on the supposition of that resemblance. Let the course of things be allowed hitherto ever so regular, that alone, without some new argument or inference, proves not that for the future it will continue so. In vain do you pretend to have learned the nature of bodies from your past experience. Their secret nature, and consequently all their effects and influence, may change, without any change in their sensible qualities. This happens sometimes, and with regard to some objects : why may it not happen always, and with regard to all objects ? What logic, what process of argument, secures you against this supposition ? My practice, you say,

refutes my doubts. But you mistake the purport of my question. As an agent, I am quite satisfied in the point; but as a philosopher, who has some share of curiosity, I will not say scepticism, I want to learn the foundation of this inference. No reading, no inquiry, has yet been able to remove my difficulty, or give me satisfaction in a matter of such importance. Can I do better than propose the difficulty to the public, even though, perhaps, I have small hopes of obtaining a solution? We shall at least, by this means, be sensible of our ignorance, if we do not augment our knowledge.

I must confess, that a man is guilty of unpardonable arrogance, who concludes, because an argument has escaped his own investigation, that therefore it does not really exist. I must also confess, that though all the learned, for several ages, should have employed themselves in fruitless search upon any subject, it may still, perhaps, be rash to conclude positively, that the subject must therefore pass all human comprehension. Even though we examine all the sources of our knowledge, and conclude them unfit for such a subject, there may still remain a suspicion, that the enumeration is not complete, or the examination not accurate. But with regard to the present subject, there are some considerations which seem to remove all this accusation of arrogance or suspicion of mistake.

It is certain, that the most ignorant and stupid peasants, nay infants, nay even brute beasts, improve by experience, and learn the qualities of natural objects, by observing the effects which result from them. When a child has felt the sensation of pain from touching the flame of a candle, he will be careful not to put his hand near any candle, but will expect a similar effect from a cause which is similar in its sensible qualities and appear-

ance. If you assert, therefore, that the understanding of the child is led into this conclusion by any process of argument or ratiocination, I may justly require you to produce that argument; nor have you any pretence to refuse so equitable a demand. You cannot say that the argument is abstruse, and may possibly escape your inquiry, since you confess that it is obvious to the capacity of a mere infant. If you hesitate, therefore, a moment, or if, after reflection, you produce an intricate or profound argument, you, in a manner, give up the question, and confess, that it is not reasoning which engages us to suppose the past resembling the future, and to expect similar effects from causes which are to appearance similar. This is the proposition which I intended to enforce in the present section. If I be right, I pretend not to have made any mighty discovery. And if I be wrong, I must acknowledge myself to be indeed a very backward scholar, since I cannot now discover an argument which, it seems, was perfectly familiar to me long before I was out of my cradle.

SECTION V.

SCEPTICAL SOLUTION OF THESE DOUBTS.

PART I.

THE passion for philosophy, like that for religion, seems liable to this inconvenience, that though it aims at the correction of our manners, and extirpation of our vices, it may only serve, by imprudent management, to foster a predominant inclination, and push the mind, with more determined resolution, towards that side which already *draws* too much, by the bias and propensity of the natural temper. It is certain, that while we aspire to the magnanimous firmness of the philosophic sage, and endeavor to confine our pleasures altogether within our own minds, we may, at least, render our philosophy like that of Epictetus and other *Stoics*, only a more refined system of selfishness, and reason ourselves out of all virtue as well as social enjoyment. While we study with attention the vanity of human life, and turn all our thoughts towards the empty and transitory nature of riches and honors, we are, perhaps, all the while flattering our natural indolence, which, hating the bustle of the world, and drudgery of business, seeks a pretence of reason to give itself a full and uncontrolled indulgence. There is, however, one species of philosophy which seems

little liable to this inconvenience, and that because it strikes in with no disorderly passion of the human mind, nor can mingle itself with any natural affection or propensity; and that is the Academic or Sceptical philosophy. The academics always talk of doubt and suspense of judgment, of danger in hasty determinations, of confining to very narrow bounds the inquiries of the understanding, and of renouncing all speculations which lie not within the limits of common life and practice. Nothing, therefore, can be more contrary than such a philosophy to the supine indolence of the mind, its rash arrogance, its lofty pretensions, and its superstitious credulity. Every passion is mortified by it, except the love of truth; and that passion never is, nor can be carried to too high a degree. It is surprising, therefore, that this philosophy, which, in almost every instance, must be harmless and innocent, should be the subject of so much groundless reproach and obloquy. But, perhaps, the very circumstance which renders it so innocent, is what chiefly exposes it to the public hatred and resentment. By flattering no irregular passion, it gains few partisans: by opposing so many vices and follies, it raises to itself abundance of enemies, who stigmatize it as libertine, profane, and irreligious.

Nor need we fear that this philosophy, while it endeavors to limit our inquiries to common life, should ever undermine the reasonings of common life, and carry its doubts so far as to destroy all action as well as speculation. Nature will always maintain her rights, and prevail in the end over any abstract reasoning whatsoever. Though we should conclude, for instance, as in the foregoing section, that in all reasonings from experience, there is a step taken by the mind, which is not supported by any argument or process of the under-

standing ; there is no danger that these reasonings, on which almost all knowledge depends, will ever be affected by such a discovery. If the mind be not engaged by argument to make this step, it must be induced by some other principle of equal weight and authority ; and that principle will preserve its influence as long as human nature remains the same. What that principle is, may well be worth the pains of inquiry.

Suppose a person, though endowed with the strongest faculties of reason and reflection, to be brought on a sudden into this world ; he would, indeed, immediately observe a continual succession of objects, and one event following another ; but he would not be able to discover any thing further. He would not at first, by any reasoning, be able to reach the idea of cause and effect ; since the particular powers, by which all natural operations are performed, never appear to the senses ; nor is it reasonable to conclude, merely because one event in one instance precedes another, that therefore the one is the cause, the other the effect. The conjunction may be arbitrary and casual. There may be no reason to infer the existence of one, from the appearance of the other : and, in a word, such a person without more experience, could never employ his conjecture or reasoning concerning any matter of fact, or be assured of any thing beyond what was immediately present to his memory or senses.

Suppose again, that he has acquired more experience, and has lived so long in the world as to have observed similar objects or events to be constantly conjoined together ; what is the consequence of this experience ? He immediately infers the existence of one object from the appearance of the other : yet he has not, by all his experience, acquired any idea or knowledge of the secret

power, by which the one object produces the other; nor is it, by any process of reasoning, he is engaged to draw this inference; but still he finds himself determined to draw it; and though he should be convinced that his understanding has no part in the operation, he would nevertheless continue in the same course of thinking. There is some other principle which determines him to form such a conclusion.

This principle is CUSTOM or HABIT. For wherever the repetition of any particular act or operation produces a propensity to renew the same act or operation, without being impelled by any reasoning or process of the understanding, we always say, that this propensity is the effect of *Custom*. By employing that word, we pretend not to have given the ultimate reason of such a propensity. We only point out a principle of human nature, which is universally acknowledged, and which is well known by its effects. Perhaps we can push our inquiries no further, or pretend to give the cause of this cause; but must rest contented with it as the ultimate principle, which we can assign, of all our conclusions from experience. It is sufficient satisfaction, that we can go so far without repining at the narrowness of our faculties; because they will carry us no further. And, it is certain, we here advance a very intelligible proposition at least, if not a true one, when we assert, that after the constant conjunction of two objects, heat and flame, for instance, weight and solidity, we are determined by custom alone to expect the one from the appearance of the other. This hypothesis seems even the only one which explains the difficulty, why we draw from a thousand instances, an inference which we are not able to draw from one instance, that is in no respect different from them. Reason is incapable of any such variation. The

conclusions which it draws from considering one circle, are the same which it would form upon surveying all the circles in the universe. But no man, having seen only one body move after being impelled by another, could infer, that every other body will move after a like impulse. All inferences from experience, therefore, are effects of custom, not of reasoning.*

* Nothing is more usual than for writers, even on *moral, political, or physical* subjects, to distinguish between *reason* and *experience*, and to suppose that these species of argumentation are entirely different from each other. The former are taken for the mere result of our intellectual faculties, which, by considering *à priori* the nature of things, and examining the effects that must follow from their operation, establish particular principles of science and philosophy. The latter are supposed to be derived entirely from sense and observation, by which we learn what has actually resulted from the operation of particular objects, and are thence able to infer what will for the future result from them. Thus, for instance, the limitations and restraints of civil government, and a legal constitution, may be defended, either from *reason*, which, reflecting on the great frailty and corruption of human nature, teaches, that no man can safely be trusted with unlimited authority; or from *experience* and history, which inform us of the enormous abuses that ambition in every age and country has been found to make of so imprudent a confidence.

The same distinction between reason and experience is maintained in all our deliberations concerning the conduct of life; while the experienced statesman, general physician, or merchant, is trusted and followed; and the unpractised novice, with whatever natural talents endowed, neglected and despised. Though it be allowed that reason may form very plausible conjectures with regard to the consequences of such a particular conduct in such particular circumstances, it is still supposed imperfect, without the assistance of experience, which is alone able to give stability and certainty to the maxim derived from study and reflection.

But notwithstanding that this distinction be thus universally received, both in the active and speculative scenes of life, I shall not scruple to pronounce, that it is, at bottom, erroneous, or at least superficial.

If we examine those arguments, which, in any of the sciences above mentioned, are supposed to be the mere effects of reasoning and reflection, they will be found to terminate at last in some general principle or conclusion, for which we can assign no reason but observation and experience. The only difference between them and those maxims, which are vulgarly esteemed the result of pure experience, is, that the former cannot be established without some process of thought, and some reflection on what we have observed, in

Custom, then, is the great guide of human life. It is that principle alone which renders our experience useful to us, and makes us expect, for the future, a similar train of events with those which have appeared in the past. Without the influence of custom, we should be entirely ignorant of every matter of fact, beyond what is immediately present to the memory and senses. We should never know how to adjust means to ends, or to employ our natural powers in the production of any effect. There would be an end at once of all action as well as of the chief part of speculation.

But here it may be proper to remark, that though our conclusions from experience carry us beyond our memory and senses, and assure us of matters of fact

order to distinguish its circumstances, and trace its consequences : whereas, in the latter, the experienced event is exactly and fully similar to that which we infer as the result of any particular situation. The history of a Tiberius or a Nero makes us dread a like tyranny, were our monarchs freed from the restraints of laws and senates : but the observation of any fraud or cruelty in private life is sufficient, with the aid of a little thought, to give us the same apprehension, while it serves as an instance of the general corruption of human nature, and shows us the danger which we must incur by reposing an entire confidence in mankind. In both cases, it is experience which is ultimately the foundation of our inference and conclusion.

There is no man so young and inexperienced, as not to have formed, from observation, many general and just maxims concerning human affairs and the conduct of life ; but it must be confessed, that when a man comes to put these in practice, he will be extremely liable to error, till time and further experience both enlarge these maxims, and teach him their proper use and application. In every situation or incident, there are many particular and seemingly minute circumstances, which the man of greatest talents is at first apt to overlook, though on them the justness of his conclusions, and consequently the prudence of his conduct, entirely depend. Not to mention that, to a young beginner, the general observations and maxims occur not always on the proper occasions, nor can be immediately applied with due calmness and distinction. The truth is, an inexperienced reasoner could be no reasoner at all, were he absolutely inexperienced ; and when we assign that character to any one, we mean it only in a comparative sense, and suppose him possessed of experience in a smaller and more imperfect degree.

which happened in the most distant places and most remote ages, yet some fact must always be present to the senses or memory, from which we may first proceed in drawing these conclusions. A man, who should find in a desert country the remains of pompous buildings, would conclude that the country had, in ancient times, been cultivated by civilized inhabitants; but did nothing of this nature occur to him, he could never form such an inference. We learn the events of former ages from history; but then we must peruse the volume in which this instruction is contained, and thence carry up our inferences from one testimony to another, till we arrive at the eye-witnesses and spectators of these distant events. In a word, if we proceed not upon some fact present to the memory or senses, our reasonings would be merely hypothetical; and however the particular links might be connected with each other, the whole chain of inferences would have nothing to support it, nor could we ever, by its means, arrive at the knowledge of any real existence. If I ask, why you believe any particular matter of fact which you relate, you must tell me some reason; and this reason will be some other fact connected with it. But as you cannot proceed after this manner *in infinitum*, you must at last terminate in some fact which is present to your memory or senses, or must allow that your belief is entirely without foundation.

What then is the conclusion of the whole matter? A simple one; though, it must be confessed, pretty remote from the common theories of philosophy. All belief of matter of fact or real existence is derived merely from some present object to the memory or senses, and a customary conjunction between that and some other object; or, in other words, having found, in many instances, that

any two kinds of objects, flame and heat, snow and cold, have always been conjoined together : if flame or snow be presented anew to the senses, the mind is carried by custom to expect heat or cold, and to *believe* that such a quality does exist, and will discover itself upon a nearer approach. This belief is the necessary result of placing the mind in such circumstances. It is an operation of the soul, when we are so situated, as unavoidable as to feel the passion of love, when we receive benefits ; or hatred, when we meet with injuries. All these operations are a species of natural instincts, which no reasoning or process of the thought and understanding is able either to produce or to prevent. At this point, it would be very allowable for us to stop our philosophical researches. In most questions, we can never make a single step further ; and in all questions we must terminate here at last, after our most restless and curious inquiries. But still our curiosity will be pardonable, perhaps commendable, if it carry us on to still further researches, and make us examine more accurately the nature of this *belief*, and of the *customary conjunction*, whence it is derived. By this means we may meet with some explications and analogies that will give satisfaction, at least to such as love the abstract sciences, and can be entertained with speculations, which, however accurate, may still retain a degree of doubt and uncertainty. As to readers of a different taste, the remaining part of this Section is not calculated for them ; and the following inquiries may well be understood, though it be neglected.

PART II.

Nothing is more free than the imagination of man, and though it cannot exceed that original stock of ideas, furnished by the internal and external senses, it has unlimited power of mixing, compounding, separating, and dividing these ideas, in all the varieties of fiction and vision. It can feign a train of events with all the appearance of reality, ascribe to them a particular time and place, conceive them as existent, and paint them out to itself with every circumstance that belongs to any historical fact, which it believes with the greatest certainty. Wherein, therefore, consists the difference between such a fiction and belief? It lies not merely in any peculiar idea which is annexed to such a conception as commands our assent, and which is wanting to every known fiction. For as the mind has authority over all its ideas, it could voluntarily annex this particular idea to any fiction, and consequently be able to believe whatever it pleases, contrary to what we find by daily experience. We can, in our conception, join the head of a man to the body of a horse; but it is not in our power to believe that such an animal has ever really existed.

It follows, therefore, that the difference between *fiction* and *belief* lies in some sentiment or feeling which is annexed to the latter, not to the former, and which depends not on the will, nor can be demanded at pleasure. It must be excited by nature like all other sentiments, and must rise from the particular situation in which the mind is placed at any particular juncture. Whenever any object is presented to the memory or

senses, it immediately, by the force of custom, carries the imagination to conceive that object which is usually conjoined to it; and this conception is attended with a feeling or sentiment different from the loose reveries of the fancy. In this consists the whole nature of belief. For, as there is no matter of fact which we believe so firmly that we cannot conceive the contrary, there would be no difference between the conception assented to, and that which is rejected, were it not for some sentiment which distinguishes the one from the other. If I see a billiard-ball moving towards another on a smooth table, I can easily conceive it to stop upon contact. This conception implies no contradiction; but still it feels very differently from that conception by which I represent to myself the impulse and the communication of motion from one ball to another.

Were we to attempt a *definition* of this sentiment, we should, perhaps, find it a very difficult, if not an impossible task; in the same manner as if we should endeavor to define the feeling of cold, or passion of anger, to a creature who never had any experience of these sentiments. Belief is the true and proper name of this feeling; and no one is ever at a loss to know the meaning of that term, because every man is every moment conscious of the sentiment represented by it. It may not, however, be improper to attempt a *description* of this sentiment, in hopes we may by that means arrive at some analogies which may afford a more perfect explication of it. I say, that belief is nothing but a more vivid, lively, forcible, firm, steady conception of an object, than what the imagination alone is ever able to attain. This variety of terms, which may seem so unphilosophical, is intended only to express that act of the mind which renders realities, or what is taken for such,

more present to us than fictions, causes them to weigh more in the thought, and gives them a superior influence on the passions and imagination. Provided we agree about the thing, it is needless to dispute about the terms. The imagination has the command over all its ideas, and can join, and mix, and vary them, in all the ways possible. It may conceive fictitious objects with all the circumstances of place and time. It may set them in a manner before our eyes, in their true colors, just as they might have existed. But as it is impossible that this faculty of imagination can ever, of itself, reach belief, it is evident that belief consists not in the peculiar nature or order of ideas, but in the *manner* of their conception, and in their *feeling* to the mind. I confess, that it is impossible perfectly to explain this feeling or manner of conception. We may make use of words which express something near it. But its true and proper name, as we observed before, is *belief*; which is a term that every one sufficiently understands in common life. And in philosophy we can go no further than assert, that *belief* is something felt by the mind, which distinguishes the ideas of the judgment from the fictions of the imagination. It gives them more weight and influence; makes them appear of greater importance; enforces them in the mind; and renders them the governing principle of our actions. I hear at present, for instance, a person's voice with whom I am acquainted, and the sound comes as from the next room. This impression of my senses immediately conveys my thought to the person, together with all the surrounding objects. I paint them out to myself as existing at present, with the same qualities and relations of which I formerly knew them possessed. These ideas take faster hold of my mind than ideas of

an enchanted castle. They are very different from the feeling, and have a much greater influence of every kind, either to give pleasure or pain, joy or sorrow.

Let us, then, take in the whole compass of this doctrine, and allow that the sentiment of belief is nothing but a conception more intense and steady, than what attends the mere fictions of the imagination; and that this *manner* of conception arises from a customary conjunction of the object with something present to the memory or senses. I believe that it will not be difficult, upon these suppositions, to find other operations of the mind analogous to it, and to trace up these phenomena to principles still more general.

We have already observed, that nature has established connections among particular ideas, and that no sooner one idea occurs to our thoughts than it introduces its correlative, and carries our attention towards it, by a gentle and insensible movement. These principles of connection or association we have reduced to three, namely, *Resemblance*, *Contiguity*, and *Causation*; which are the only bonds that unite our thoughts together, and beget that regular train of reflection or discourse, which, in a greater or less degree, takes place among all mankind. Now, here arises a question, on which the solution of the present difficulty will depend. Does it happen in all these relations, that when one of the objects is presented to the senses or memory, the mind is not only carried to the conception of the correlative, but reaches a steadier and stronger conception of it than what otherwise it would have been able to attain? This seems to be the case with that belief which arises from the relation of cause and effect. And if the case be the same with the other relations or principles of associa-

tion, this may be established as a general law, which takes place in all the operations of the mind.

We may, therefore, observe, as the first experiment to our present purpose, that upon the appearance of the picture of an absent friend, our idea of him is evidently enlivened by the *resemblance*, and that every passion which that idea occasions, whether of joy or sorrow, acquires new force and vigor. In producing this effect, there concur both a relation and a present impression. Where the picture bears him no resemblance, at least was not intended for him, it never so much as conveys our thought to him: and where it is absent, as well as the person, though the mind may pass from the thought of one to that of the other, it feels its idea to be rather weakened than enlivened by that transition. We take a pleasure in viewing the picture of a friend when it is set before us; but when it is removed, rather choose to consider him directly, than by reflection on an image, which is equally distant and obscure.

The ceremonies of the Roman Catholic religion may be considered as instances of the same nature. The devotees of that superstition usually plead in excuse for the mummeries with which they are upbraided, that they feel the good effect of those external motions, and postures, and actions, in enlivening their devotion and quickening their fervor, which otherwise would decay, if directed entirely to distant and immaterial objects. We shadow out the objects of our faith, say they, in sensible types and images, and render them more present to us by the immediate presence of these types, than it is possible for us to do merely by an intellectual view and contemplation. Sensible objects have always a greater influence on the fancy than any other; and this influence they readily convey to those ideas, to which they

are related, and which they resemble. I shall only infer from these practices, and this reasoning, that the effect of resemblance in enlivening the ideas is very common; and, as in every case a resemblance and a present impression must concur, we are abundantly supplied with experiments to prove the reality of the foregoing principle.

We may add force to these experiments by others of a different kind, in considering the effects of *contiguity* as well as of *resemblance*. It is certain that distance diminishes the force of every idea, and that, upon our approach to any object, though it does not discover itself to our senses, it operates upon the mind with an influence which imitates an immediate impression. The thinking on any object readily transports the mind to what is contiguous; but it is only the actual presence of an object that transports it with a superior vivacity. When I am a few miles from home, whatever relates to it touches me more nearly than when I am two hundred leagues distant; though even at that distance the reflecting on any thing in the neighborhood of my friends or family naturally produces an idea of them. But, as in this latter case, both the objects of the mind are ideas, notwithstanding there is an easy transition between them; that transition alone is not able to give a superior vivacity to any of the ideas, for want of some immediate impression.*

* "Naturae nobis hoc, inquit, datum dicam, an errore quodam, ut, cum ea loca videamus, in quibus memoria dignos viros acceperimus multum esse versatos, magis moveamur, quam si quando eorum ipsorum aut facta audiamus aut scriptum aliquod legamus? Velut ego nunc moveor: venit enim mihi Platonis in mentem, quem acceperimus primum hic disputare solitum: ejus etiam illi hortuli propinqui non memoriam solum adferunt, sed ipsum videntur in conspectu meo ponere. Hic Speusippus, hic Xenocrates, hic ejus auditor Polemo; ejus illa sessio fuit, quam videmus. Equidem etiam curiam nostram, Hostiliam dico,

No one can doubt but *causation* has the same influence as the other two relations of resemblance and contiguity. Superstitious people are fond of the relics of saints and holy men, for the same reason that they seek after types or images, in order to enliven their devotion, and give them a more intimate and strong conception of those exemplary lives which they desire to imitate. Now, it is evident, that one of the best relics which a devotee could procure, would be the handiwork of a saint; and if his clothes and furniture are ever to be considered in this light, it is because they were once at his disposal, and were moved and affected by him; in which respect they are to be considered as imperfect effects, and as connected with him by a shorter chain of consequences than any of those by which we learn the reality of his existence.

Suppose that the son of a friend, who had been long dead or absent, were presented to us; it is evident that this object would instantly revive its correlative idea, and recall to our thoughts all past intimacies and familiarities, in more lively colors than they would otherwise have appeared to us. This is another phenomenon, which seems to prove the principle above mentioned.

We may observe, that in these phenomena, the belief of the correlative object is always presupposed; without which the relation could have no effect. The influence of the picture supposes, that we *believe* our friend to have once existed. Contiguity to home can never excite our

non hanc novam, quæ mihi minor esse videtur posteaquam est major, solebam intuens, Scipionem, Catonem, Lælium, nostrum vero in primis avum cogitare. Tanta vis admonitionis inest in locis: ut non sine causa ex his memoriæ ducta sit disciplina." *Cicero de Finibus*, lib. v. i.

ideas of home, unless we *believe* that it really exists. Now, I assert, that this belief, where it reaches beyond the memory or senses, is of a similar nature, and arises from similar causes, with the transition of thought and vivacity of conception here explained. When I throw a piece of dry wood into a fire, my mind is immediately carried to conceive that it augments, not extinguishes the flame. This transition of thought from the cause to the effect proceeds not from reason. It derives its origin altogether from custom and experience. And, as it first begins from an object present to the senses, it renders the idea or conception of flame more strong or lively, than any loose floating reverie of the imagination. That idea arises immediately. The thought moves instantly towards it, and conveys to it all that force of conception which is derived from the impression present to the senses. When a sword is levelled at my breast, does not the idea of wound and pain strike me more strongly, than when a glass of wine is presented to me, even though by accident this idea should occur after the appearance of the latter object? But what is there in this whole matter to cause such a strong conception, except only a present object and a customary transition to the idea of another object, which we have been accustomed to conjoin with the former? This is the whole operation of the mind, in all our conclusions concerning matter of fact and existence; and it is a satisfaction to find some analogies by which it may be explained. The transition from a present object does in all cases give strength and solidity to the related idea.

Here, then, is a kind of preëstablished harmony between the course of nature and the succession of our ideas; and though the powers and forces by which the

former is governed, be wholly unknown to us, yet our thoughts and conceptions have still, we find, gone on in the same train with the other works of nature. Custom is that principle by which this correspondence has been effected; so necessary to the subsistence of our species, and the regulation of our conduct, in every circumstance and occurrence of human life. Had not the presence of an object instantly excited the idea of those objects commonly conjoined with it, all our knowledge must have been limited to the narrow sphere of our memory and senses; and we should never have been able to adjust means to ends, or employ our natural powers, either to the producing of good, or avoiding of evil. Those who delight in the discovery and contemplation of *final causes*, have here ample subject to employ their wonder and admiration.

I shall add, for a further confirmation of the foregoing theory, that as this operation of the mind, by which we infer like effects from like causes, and *vice versa*, is so essential to the subsistence of all human creatures, it is not probable that it could be trusted to the fallacious deductions of our reason, which is slow in its operations; appears not, in any degree, during the first years of infancy; and, at best, is in every age and period of human life extremely liable to error and mistake. It is more conformable to the ordinary wisdom of nature to secure so necessary an act of the mind, by some instinct or mechanical tendency, which may be infallible in its operations, may discover itself at the first appearance of life and thought, and may be independent of all the labored deductions of the understanding. As nature has taught us the use of our limbs, without giving us the knowledge of the muscles and nerves by which they are actuated, so has she implanted in us an instinct, which carries

forward the thought in a correspondent course to that which she has established among external objects; though we are ignorant of those powers and forces on which this regular course and succession of objects totally depends.

SECTION VI.

OF PROBABILITY.*

THOUGH there be no such thing as *Chance* in the world, our ignorance of the real cause of any event has the same influence on the understanding, and begets a like species of belief or opinion.

There is certainly a probability, which arises from a superiority of chances on any side; and, according as this superiority increases, and surpasses the opposite chances, the probability receives a proportionable increase, and begets still a higher degree of belief or assent to that side in which we discover the superiority. If a die were marked with one figure or number of spots on four sides, and with another figure or number of spots on the two remaining sides, it would be more probable that the former would turn up than the latter; though, if it had a thousand sides marked in the same manner, and only one side different, the probability would be much higher, and our belief or expectation of the event

* Mr. Locke divides all arguments into demonstrative and probable. In this view, we must say, that it is only probable all men must die, or that the sun will rise to-morrow. But to conform our language more to common use, we ought to divide arguments into *demonstrations*, *proofs*, and *probabilities*. By proofs, meaning such arguments from experience as leave no room for doubt or opposition.

more steady and secure. This process of the thought or reasoning may seem trivial and obvious ; but to those who consider it more narrowly, it may, perhaps, afford matter for curious speculation.

It seems evident, that when the mind looks forward to discover the event, which may result from the throw of such a die, it considers the turning up of each particular side as alike probable ; and this is the very nature of chance, to render all the particular events comprehended in it entirely equal. But finding a greater number of sides concur in the one event than in the other, the mind is carried more frequently to that event, and meets it oftener, in revolving the various possibilities or chances on which the ultimate result depends. This concurrence of several views in one particular event begets immediately, by an explicable contrivance of nature, the sentiment of belief, and gives that event the advantage over its antagonist, which is supported by a smaller number of views, and recurs less frequently to the mind. If we allow that belief is nothing but a firmer and stronger conception of an object than what attends the mere fictions of the imagination, this operation may, perhaps, in some measure, be accounted for. The concurrence of these several views or glimpses imprints the idea more strongly on the imagination ; gives it superior force and vigor ; renders its influence on the passions and affections more sensible ; and in a word, begets that reliance or security which constitutes the nature of belief and opinion.

The case is the same with the probability of causes as with that of chance. There are some causes which are entirely uniform and constant in producing a particular effect ; and no instance has ever yet been found of any failure or irregularity in their operation. Fire has always

burned, and water suffocated, every human creature : the production of motion by impulse and gravity is a universal law, which has hitherto admitted of no exception. But there are other causes which have been found more irregular and uncertain ; nor has rhubarb always proved a purge, or opium a soporific, to every one who has taken these medicines. It is true, when any cause fails of producing its usual effect, philosophers ascribe not this to any irregularity in nature ; but suppose, that some secret causes, in the particular structure of parts, have prevented the operation. Our reasonings, however, and conclusions, concerning the event, are the same as if this principle had no place. Being determined by custom to transfer the past to the future in all our inferences ; where the past has been entirely regular and uniform, we expect the event with the greatest assurance, and leave no room for any contrary supposition. But where different effects have been found to follow from causes, which are to *appearance* exactly similar, all these various effects must occur to the mind in transferring the past to the future, and enter into our consideration when we determine the probability of the event. Though we give the preference to that which has been found most usual, and believe that this effect will exist, we must not overlook the other effects, but must assign to each of them a particular weight and authority, in proportion as we have found it to be more or less frequent. It is more probable, in almost every country of Europe, that there will be frost some time in January, than that the weather will continue open throughout that whole month ; though this probability varies according to the different climates, and approaches to a certainty in the more northern kingdoms. Here then it seems evident, that when we transfer the past to

the future, in order to determine the effect which will result from any cause, we transfer all the different events, in the same proportion as they have appeared in the past, and conceive one to have existed a hundred times, for instance, another ten times, and another once. As a great number of views do here concur in one event, they fortify and confirm it to the imagination, beget that sentiment which we call *belief*, and give its object the preference above the contrary event, which is not supported by an equal number of experiments, and recurs not so frequently to the thought in transferring the past to the future. Let any one try to account for this operation of the mind upon any of the received systems of philosophy, and he will be sensible of the difficulty. For my part, I shall think it sufficient, if the present hints excite the curiosity of philosophers, and make them sensible how defective all common theories are in treating of such curious and such sublime subjects.

SECTION VII.

OF THE IDEA OF NECESSARY CONNECTION.*

PART I.

THE great advantage of the mathematical sciences above the moral, consists in this, that the ideas of the former, being sensible, are always clear and determinate, the smallest distinction between them is immediately perceptible, and the same terms are still expressive of the same ideas, without ambiguity or variation. An oval is never mistaken for a circle, nor an hyperbola for an ellipsis. The isosceles and scalenum are distinguished by boundaries more exact than vice and virtue, right and wrong. If any term be defined in geometry, the mind readily, of itself, substitutes, on all occasions, the definition for the term defined: or, even when no definition is employed, the object itself may be presented to the senses, and by that means be steadily and clearly apprehended. But the finer sentiments of the mind, the operations of the understanding, the various agitations of the passions, though really in themselves distinct, easily escape us, when surveyed by reflection; nor

* Entitled in Editions K, L, "Of the Idea of Power, or Necessary Connection."

is it in our power to recall the original object, as often as we have occasion to contemplate it. Ambiguity, by this means, is gradually introduced into our reasonings: similar objects are readily taken to be the same: and the conclusion becomes at last very wide of the premises.

One may safely, however, affirm, that if we consider these sciences in a proper light, their advantages and disadvantages nearly compensate each other, and reduce both of them to a state of equality. If the mind, with greater facility, retains the ideas of geometry clear and determinate, it must carry on a much longer and more intricate chain of reasoning, and compare ideas much wider of each other, in order to reach the abstruser truths of that science. And if moral ideas are apt, without extreme care, to fall into obscurity and confusion, the inferences are always much shorter in these disquisitions, and the intermediate steps, which lead to the conclusion, much fewer than in the sciences which treat of quantity and number. In reality, there is scarcely a proposition in Euclid so simple as not to consist of more parts than are to be found in any moral reasoning which runs not into chimera and conceit. Where we trace the principles of the human mind through a few steps, we may be very well satisfied with our progress, considering how soon nature throws a bar to all our inquiries concerning causes, and reduces us to an acknowledgment of our ignorance. The chief obstacle, therefore, to our improvement in the moral or metaphysical sciences, is the obscurity of the ideas, and ambiguity of the terms. The principal difficulty in the mathematics is the length of inferences and compass of thought requisite to the forming of any conclusion. And, perhaps, our progress in natural philosophy is chiefly retarded by the want of

proper experiments and phenomena, which are often discovered by chance, and cannot always be found when requisite, even by the most diligent and prudent inquiry. As moral philosophy seems hitherto to have received less improvement than either geometry or physics, we may conclude, that if there be any difference in this respect among these sciences, the difficulties which obstruct the progress of the former require superior care and capacity to be surmounted.

There are no ideas which occur in metaphysics more obscure and uncertain than those of *power, force, energy, or necessary connection*, of which it is every moment necessary for us to treat in all our disquisitions. We shall therefore endeavor, in this section, to fix, if possible, the precise meaning of these terms, and thereby remove some part of that obscurity which is so much complained of in this species of philosophy.

It seems a proposition which will not admit of much dispute, that all our ideas are nothing but copies of our impressions, or, in other words, that it is impossible for us to *think* of any thing which we have not antecedently *felt*, either by our external or internal senses. I have endeavored* to explain and prove this proposition, and have expressed my hopes, that by a proper application of it, men may reach a greater clearness and precision in philosophical reasonings than what they have hitherto been able to attain. Complex ideas may, perhaps, be well known by definition, which is nothing but an enumeration of those parts or simple ideas that compose them. But when we have pushed up definitions to the most simple ideas, and find still some ambiguity and obscurity, what resource are we then possessed of? By

* Section II.

what invention can we throw light upon these ideas, and render them altogether precise and determinate to our intellectual view? Produce the impressions or original sentiments from which the ideas are copied. These impressions are all strong and sensible. They admit not of ambiguity. They are not only placed in a full light themselves, but may throw light on their correspondent ideas, which lie in obscurity. And by this means we may perhaps obtain a new microscope or species of optics, by which, in the moral sciences, the most minute, and most simple ideas may be so enlarged, as to fall readily under our apprehension, and be equally known with the grossest and most sensible ideas that can be the object of our inquiry.

To be fully acquainted, therefore, with the idea of power or necessary connection, let us examine its impression; and, in order to find the impression with greater certainty, let us search for it in all the sources from which it may possibly be derived.

When we look about us towards external objects, and consider the operation of causes, we are never able, in a single instance, to discover any power or necessary connection; any quality which binds the effect to the cause, and renders the one an infallible consequence of the other. We only find that the one does actually in fact follow the other. The impulse of one billiard-ball is attended with motion in the second. This is the whole that appears to the *outward* senses. The mind feels no sentiment or *inward* impression from this succession of objects: consequently there is not, in any single particular instance of cause and effect, any thing which can suggest the idea of power or necessary connection.

From the first appearance of an object, we never can conjecture what effect will result from it. But were the

power or energy of any cause discoverable by the mind, we could foresee the effect, even without experience; and might, at first, pronounce with certainty concerning it, by the mere dint of thought and reasoning.

In reality, there is no part of matter that does ever, by its sensible qualities, discover any power or energy, or give us ground to imagine that it could produce any thing, or be followed by any other object which we could denominate its effect. Solidity, extension, motion; these qualities are all complete in themselves, and never point out any other event which may result from them. The scenes of the universe are continually shifting, and one object follows another in an uninterrupted succession; but the power or force, which actuates the whole machine, is entirely concealed from us, and never discovers itself in any of the sensible qualities of body. We know that, in fact, heat is a constant attendant of flame; but what is the connection between them we have no room so much as to conjecture or imagine. It is impossible, therefore, that the idea of power can be derived from the contemplation of bodies, in single instances of their operation; because no bodies ever discover any power, which can be the original of this idea.*

Since, therefore, external objects, as they appear to the senses, give us no idea of power nor necessary connection, by their operation in particular instances, let us see, whether this idea be derived from reflection on the operations of our own minds, and be copied from any inter-

* Mr. Locke, in his chapter of Power, says, that, finding from experience, that there are several new productions in matter, and concluding that there must somewhere be a power capable of producing them, we arrive at last by this reasoning at the idea of power. But no reasoning can ever give us a new, original, simple idea, as this philosopher himself confesses. This, therefore, can never be the origin of that idea.

nal impression. It may be said, that we are every moment conscious of internal power while we feel, that, by the simple command of our will, we can move the organs of our body, or direct the faculties of our mind. An act of volition produces motion in our limbs, or raises a new idea in our imagination. This influence of the will we know by consciousness. Hence we acquire the idea of power or energy; and are certain, that we ourselves and all other intelligent beings are possessed of power.* This idea, then, is an idea of reflection, since it arises from reflecting on the operations of our own mind, and on the command which is exercised by will, both over the organs of the body and faculties of the soul.

We shall proceed to examine this pretension: and, first, with regard to the influence of volition over the organs of the body. This influence, we may observe, is a fact which, like all other natural events, can be known only by experience, and can never be foreseen from any apparent energy or power in the cause, which connects it with the effect, and renders the one an infallible consequence of the other. The motion of our body follows upon the command of our will. Of this we are every moment conscious. But the means by which this is effected, the energy by which the will performs so extraordinary an operation; of this we are so far from being immediately conscious, that it must for ever escape our most diligent inquiry.

For, *first*, Is there any principle in all nature more mysterious than the union of soul with body; by which a supposed spiritual substance acquires such an influence over a material one, that the most refined thought

* "The operations and mutual influence of bodies are perhaps sufficient to prove that they also are possessed of it."—EDITIONS K, L.

is able to actuate the grossest matter? Were we empowered, by a secret wish, to remove mountains, or control the planets in their orbit, this extensive authority would not be more extraordinary, nor more beyond our comprehension. But if, by consciousness, we perceived any power or energy in the will, we must know this power; we must know its connection with the effect; we must know the secret union of soul and body, and the nature of both these substances, by which the one is able to operate, in so many instances, upon the other.

Secondly, We are not able to move all the organs of the body with a like authority, though we cannot assign any reason, besides experience, for so remarkable a difference between one and the other. Why has the will an influence over the tongue and fingers, not over the heart or liver? This question would never embarrass us, were we conscious of a power in the former case, not in the latter. We should then perceive, independent of experience, why the authority of the will, over the organs of the body, is circumscribed within such particular limits. Being in that case fully acquainted with the power or force by which it operates, we should also know why its influence reaches precisely to such boundaries, and no further.

A man, suddenly struck with a palsy in the leg or arm, or who had newly lost those members, frequently endeavors, at first, to move them, and employ them in their usual offices. Here he is as much conscious of power to command such limbs as a man in perfect health is conscious of power to actuate any member which remains in its natural state and condition. But consciousness never deceives. Consequently, neither in the one case nor in the other are we ever conscious of any power. We learn the influence of our will from expe-

rience alone. And experience only teaches us how one event constantly follows another, without instructing us in the secret connection which binds them together, and renders them inseparable.

Thirdly, We learn from anatomy, that the immediate object of power in voluntary motion is not the member itself which is moved, but certain muscles, and nerves, and animal spirits, and, perhaps, something still more minute and more unknown, through which the motion is successively propagated, ere it reach the member itself whose motion is the immediate object of volition. Can there be a more certain proof that the power by which this whole operation is performed, so far from being directly and fully known by an inward sentiment or consciousness, is to the last degree mysterious and unintelligible? Here the mind wills a certain event: immediately another event, unknown to ourselves, and totally different from the one intended, is produced: this event produces another, equally unknown: till at last, through a long succession, the desired event is produced. But if the original power were felt, it must be known: were it known, its effect must also be known, since all power is relative to its effect. And, *vice versa*, if the effect be not known, the power cannot be known nor felt. How indeed can we be conscious of a power to move our limbs, when we have no such power, but only that to move certain animal spirits, which, though they produce at last the motion of our limbs, yet operate in such a manner as is wholly beyond our comprehension?

We may therefore conclude from the whole, I hope, without any temerity, though with assurance, that our idea of power is not copied from any sentiment or consciousness of power within ourselves, when we give rise

to animal motion, or apply our limbs to their proper use and office. That their motion follows the command of the will, is a matter of common experience, like other natural events: but the power or energy by which this is effected, like that in the other natural events, is unknown and inconceivable.*

Shall we then assert, that we are conscious of a power or energy in our own minds, when, by an act or command of our will, we raise up a new idea, fix the mind to the contemplation of it, turn it on all sides, and at last dismiss it for some other idea, when we think that we have surveyed it with sufficient accuracy? I believe the same arguments will prove, that even this command of the will gives us no real idea of force or energy.

First, It must be allowed, that when we know a power, we know that very circumstance in the cause by which it is enabled to produce the effect; for these are supposed to be synonymous. We must therefore know both the cause and effect, and the relation between them. But do we pretend to be acquainted with the nature of the human soul and the nature of an idea, or

* It may be pretended, that the resistance which we meet with in bodies, obliging us frequently to exert our force, and call up all our power, this gives us the idea of force and power. It is this *nisus*, or strong endeavor of which we are conscious, that is the original impression from which this idea is copied. But, *first*, we attribute power to a vast number of objects, where we never can suppose this resistance or exertion of force to take place; to the Supreme Being, who never meets with any resistance; to the mind in its command over its ideas and limbs, in common thinking and motion, where the effect follows immediately upon the will, without any exertion or summoning up of force; to inanimate matter, which is not capable of this sentiment. *Secondly*, This sentiment of an endeavor to overcome resistance has no known connection with any event: what follows it we know by experience, but could not know it *à priori*. It must, however, be confessed, that the animal *nisus* which we experience, though it can afford no accurate precise idea of power, enters very much into that vulgar, inaccurate idea, which is formed of it.

the aptitude of the one to produce the other? This is a real creation, a production of something out of nothing, which implies a power so great, that it may seem, at first sight, beyond the reach of any being less than infinite. At least it must be owned, that such a power is not felt, nor known, nor even conceivable, by the mind. We only feel the event, namely, the existence of an idea, consequent to a command of the will: but the manner in which this operation is performed, the power by which it is produced, is entirely beyond our comprehension.

Secondly, The command of the mind over itself is limited, as well as its command over the body; and these limits are not known by reason, or any acquaintance with the nature of cause and effect, but only by experience and observation, as in all other natural events, and in the operation of external objects. Our authority over our sentiments and passions is much weaker than that over our ideas; and even the latter authority is circumscribed within very narrow boundaries. Will any one pretend to assign the ultimate reason of these boundaries, or show why the power is deficient in one case, not in another?

Thirdly, This self-command is very different at different times. A man in health possesses more of it than one languishing with sickness. We are more master of our thoughts in the morning than in the evening; fasting, than after a full meal. Can we give any reason for these variations except experience? Where then is the power of which we pretend to be conscious? Is there not here, either in a spiritual or material substance, or both, some secret mechanism or structure of parts, upon which the effect depends, and which, being entirely un-

known to us, renders the power or energy of the will equally unknown and incomprehensible ?

Volition is surely an act of the mind with which we are sufficiently acquainted. Reflect upon it. Consider it on all sides. Do you find any thing in it like this creative power, by which it raises from nothing a new idea, and, with a kind of *FIAT*, imitates the omnipotence of its Maker, if I may be allowed so to speak, who called forth into existence all the various scenes of Nature ? So far from being conscious of this energy in the will, it requires as certain experience as that of which we are possessed, to convince us that such extraordinary effects do ever result from a simple act of volition.

The generality of mankind never find any difficulty in accounting for the more common and familiar operations of nature ; such as the descent of heavy bodies, the growth of plants, the generation of animals, or the nourishment of bodies by food : but suppose that, in all these cases, they perceive the very force or energy of the cause by which it is connected with its effect, and is for ever infallible in its operation. They acquire, by long habit, such a turn of mind, that upon the appearance of the cause, they immediately expect, with assurance, its usual attendant, and hardly conceive it possible that any other event could result from it. It is only on the discovery of extraordinary phenomena, such as earthquakes, pestilence, and prodigies of any kind, that they find themselves at a loss to assign a proper cause, and to explain the manner in which the effect is produced by it. It is usual for men, in such difficulties, to have recourse to some invisible intelligent principle,* as the immediate cause of that event, which surprises them,

* Θεός ὑπὸ μηχανῆς.

and which they think cannot be accounted for from the common powers of nature. But philosophers, who carry their scrutiny a little further, immediately perceive, that, even in the most familiar events, the energy of the cause is as unintelligible as in the most unusual, and that we only learn by experience the frequent conjunction of objects, without being ever able to comprehend any thing like connection between them. Here, then, many philosophers think themselves obliged by reason to have recourse, on all occasions, to the same principle, which the vulgar never appeal to but in cases that appear miraculous and supernatural. They acknowledge mind and intelligence to be, not only the ultimate and original cause of all things, but the immediate and sole cause of every event which appears in nature. They pretend, that those objects which are commonly denominated *causes*, are in reality nothing but *occasions*; and that the true and direct principle of every effect is not any power or force in nature, but a volition of the Supreme Being, who wills that such particular objects should for ever be conjoined with each other. Instead of saying, that one billiard-ball moves another by a force which it has derived from the author of nature, it is the Deity himself, they say, who, by a particular volition, moves the second ball, being determined to this operation by the impulse of the first ball, in consequence of those general laws which he has laid down to himself in the government of the universe. But philosophers, advancing still in their inquiries, discover, that as we are totally ignorant of the power on which depends the mutual operation of bodies, we are no less ignorant of that power on which depends the operation of mind on body, or of body on mind; nor are we able, either from our senses or consciousness, to assign the ultimate prin-

ciple in the one case more than in the other. The same ignorance, therefore, reduces them to the same conclusion. They assert, that the Deity is the immediate cause of the union between soul and body; and that they are not the organs of sense, which, being agitated by external objects, produce sensations in the mind; but that it is a particular volition of our omnipotent Maker, which excites such a sensation in consequence of such a motion in the organ. In like manner, it is not any energy in the will that produces local motion in our members: it is God himself who is pleased to second our will, in itself impotent, and to command that motion, which we erroneously attribute to our own power and efficacy. Nor do philosophers stop at this conclusion. They sometimes extend the same inference to the mind itself in its internal operations. Our mental vision or conception of ideas is nothing but a revelation made to us by our Maker. When we voluntarily turn our thoughts to any object, and raise up its image in the fancy, it is not the will which creates that idea: it is the universal Creator who discovers it to the mind, and renders it present to us.

Thus, according to these philosophers, every thing is full of God. Not content with the principle, that nothing exists but by his will, that nothing possesses any power but by his concession; they rob nature, and all created beings, of every power, in order to render their dependence on the Deity still more sensible and immediate. They consider not, that by this theory they diminish, instead of magnifying, the grandeur of those attributes, which they affect so much to celebrate. It argues, surely, more power in the Deity, to delegate a certain degree of power to inferior creatures, than to produce every thing by his own immediate volition. It argues more wisdom to contrive at first the fabric of the

world with such perfect foresight, that of itself, and by its proper operation, it may serve all the purposes of Providence, than if the great Creator were obliged every moment to adjust its parts, and animate by his breath all the wheels of that stupendous machine.

But if we would have a more philosophical confutation of this theory, perhaps the two following reflections may suffice.

First, It seems to me, that this theory of the universal energy and operation of the Supreme Being is too bold ever to carry conviction with it to a man sufficiently apprised of the weakness of human reason, and the narrow limits to which it is confined in all its operations. Though the chain of arguments which conduct to it were ever so logical, there must arise a strong suspicion, if not an absolute assurance, that it has carried us quite beyond the reach of our faculties, when it leads to conclusions so extraordinary, and so remote from common life and experience. We are got into fairy land long ere we have reached the last steps of our theory; and *there* we have no reason to trust our common methods of argument, or to think that our usual analogies and probabilities have any authority. Our line is too short to fathom such immense abysses. And however we may flatter ourselves, that we are guided, in every step which we take, by a kind of verisimilitude and experience, we may be assured that this fancied experience has no authority, when we thus apply it to subjects that lie entirely out of the sphere of experience. But on this we shall have occasion to touch afterwards.*

Secondly, I cannot perceive any force in the arguments on which this theory is founded. We are ignorant, it is

* Section XII.

true, of the manner in which bodies operate on each other. Their force or energy is entirely incomprehensible : but are we not equally ignorant of the manner or force by which a mind, even the Supreme Mind, operates, either on itself or on body? Whence, I beseech you, do we acquire any idea of it? We have no sentiment or consciousness of this power in ourselves. We have no idea of the Supreme Being but what we learn from reflection on our own faculties. Were our ignorance, therefore, a good reason for rejecting any thing, we should be led into that principle of denying all energy in the Supreme Being, as much as in the grossest matter. We surely comprehend as little the operations of the one as of the other. Is it more difficult to conceive, that motion may arise from impulse, than that it may arise from volition? All we know is our profound ignorance in both cases.*

* I need not examine at length the *vis inertiae* which is so much talked of in the new philosophy, and which is ascribed to matter. We find by experience, that a body at rest or in motion continues for ever in its present state, till put from it by some new cause; and that a body impelled takes as much motion from the impelling body as it acquires itself. These are facts. When we call this a *vis inertiae*, we only mark these facts, without pretending to have any idea of the inert power; in the same manner as, when we talk of gravity, we mean certain effects, without comprehending that active power. It was never the meaning of Sir Isaac Newton to rob second causes of all force or energy, though some of his followers have endeavored to establish that theory upon his authority. On the contrary, that great philosopher had recourse to an ethereal active fluid to explain his universal attraction, though he was so cautious and modest as to allow that it was a mere hypothesis not to be insisted on, without more experiments. I must confess, that there is something in the fate of opinions a little extraordinary. Des Cartes insinuated that doctrine of the universal and sole efficacy of the Deity, without insisting on it. Malebranche and other Cartesians made it the foundation of all their philosophy. It had, however, no authority in England. Locke, Clarke, and Cudworth, never so much as take notice of it, but suppose all along that matter has a real, though subordinate and derived power. By what means has it become so prevalent among our modern metaphysicians?

PART II.

But to hasten to a conclusion of this argument, which is already drawn out to too great a length ; we have sought in vain for an idea of power or necessary connection, in all the sources from which we would suppose it to be derived. It appears, that in single instances of the operation of bodies, we never can, by our utmost scrutiny, discover any thing but one event following another ; without being able to comprehend any force or power by which the cause operates, or any connection between it and its supposed effect. The same difficulty occurs in contemplating the operations of mind on body ; where we observe the motion of the latter to follow upon the volition of the former ; but are not able to observe or conceive the tie which binds together the motion and volition, or the energy by which the mind produces this effect. The authority of the will over its own faculties and ideas, is not a whit more comprehensible : so that, upon the whole, there appears not, throughout all nature, any one instance of connection, which is conceivable by us. All events seem entirely loose and separate. One event follows another, but we never can observe any tie between them. They seem *conjoined*, but never *connected*. But as we can have no idea of any thing which never appeared to our outward sense or inward sentiment, the necessary conclusion *seems* to be, that we have no idea of connection or power at all, and that these words are absolutely without any meaning, when employed either in philosophical reasonings or common life.

But there still remains one method of avoiding this conclusion, and one source which we have not yet examined. When any natural object or event is presented, it is impossible for us, by any sagacity or penetration, to discover, or even conjecture, without experience, what event will result from it, or to carry our foresight beyond that object, which is immediately present to the memory and senses. Even after one instance or experiment, where we have observed a particular event to follow upon another, we are not entitled to form a general rule, or foretell what will happen in like cases; it being justly esteemed an unpardonable temerity to judge of the whole course of nature from one single experiment, however accurate or certain. But when one particular species of events has always, in all instances, been conjoined with another, we make no longer any scruple of foretelling one upon the appearance of the other, and of employing that reasoning which can alone assure us of any matter of fact or existence. We then call the one object *Cause*, the other *Effect*. We suppose that there is some connection between them; some power in the one, by which it infallibly produces the other, and operates with the greatest certainty and strongest necessity.

It appears, then, that this idea of a necessary connection among events arises from a number of similar instances which occur, of the constant conjunction of these events; nor can that idea ever be suggested by any one of these instances, surveyed in all possible lights and positions. But there is nothing in a number of instances, different from every single instance, which is supposed to be exactly similar; except only, that after a repetition of similar instances, the mind is carried by

habit, upon the appearance of one event, to expect its usual attendant, and to believe that it will exist. This connection, therefore, which we *feel* in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression, from which we form the idea of power or necessary connection. Nothing further is in the case. Contemplate the subjects on all sides, you will never find any other origin of that idea. This is the sole difference between one instance, from which we can never receive the idea of connection, and a number of similar instances, by which it is suggested. The first time a man saw the communication of motion by impulse, as by the shock of two billiard-balls, he could not pronounce that the one event was *connected*, but only that it was *conjoined* with the other. After he has observed several instances of this nature, he then pronounces them to be *connected*. What alteration has happened to give rise to this new idea of *connection*? Nothing but that he now *feels* these events to be *connected* in his imagination, and can readily foretell the existence of one from the appearance of the other. When we say, therefore, that one object is connected with another, we mean only that they have acquired a connection in our thought, and gave rise to this inference, by which they become proofs of each other's existence; a conclusion which is somewhat extraordinary, but which seems founded on sufficient evidence. Nor will its evidence be weakened by any general diffidence of the understanding, or sceptical suspicion concerning every conclusion which is new and extraordinary. No conclusions can be more agreeable to scepticism than such as make discoveries concerning the weakness and narrow limits of human reason and capacity.

And what stronger instance can be produced of the surprising ignorance and weakness of the understanding than the present? For surely, if there be any relation among objects, which it imports us to know perfectly, it is that of cause and effect. On this are founded all our reasonings concerning matter of fact or existence. By means of it alone, we attain any assurance concerning objects, which are removed from the present testimony of our memory and senses. The only immediate utility of all sciences is to teach us how to control and regulate future events by their causes. Our thoughts and inquiries are, therefore, every moment employed about this relation: yet so imperfect are the ideas which we form concerning it, that it is impossible to give any just definition of cause, except what is drawn from something extraneous and foreign to it. Similar objects are always conjoined with similar. Of this we have experience. Suitably to this experience, therefore, we may define a cause to be *an object followed by another, and where all the objects, similar to the first, are followed by objects similar to the second.* Or, in other words, *where, if the first object had not been, the second never had existed.* The appearance of a cause always conveys the mind, by a customary transition, to the idea of the effect. Of this also we have experience. We may, therefore, suitably to this experience, form another definition of cause; and call it, *an object followed by another, and whose appearance always conveys the thought to that other.* But though both these definitions be drawn from circumstances foreign to the cause, we cannot remedy this inconvenience, or attain any more perfect definition, which may point out that circumstance in the cause which gives it a connection with its effect. We have no idea of this connection; nor

even any distinct notion what it is we desire to know, when we endeavor at a conception of it. We say, for instance, that the vibration of this string is the cause of this particular sound. But what do we mean by that affirmation? We either mean, *that this vibration is followed by this sound, and that all similar vibrations have been followed by similar sounds: or, that this vibration is followed by this sound, and that, upon the appearance of one, the mind anticipates the senses, and forms immediately an idea of the other.* We may consider the relation of cause and effect in either of these two lights; but beyond these we have no idea of it.*

* According to these explications and definitions, the idea of *power* is relative as much as that of *cause*; and both have a reference to an effect, or some other event constantly conjoined with the former. When we consider the *unknown* circumstance of an object, by which the degree or quantity of its effect is fixed and determined, we call that its power. And accordingly, it is allowed by all philosophers, that the effect is the measure of the power. But if they had any idea of power as it is in itself, why could they not measure it in itself? The dispute, whether the force of a body in motion be as its velocity, or the square of its velocity; this dispute, I say, needed not be decided by comparing its effects in equal or unequal times, but by a direct mensuration and comparison.†

As to the frequent use of the words Force, Power, Energy, etc. which everywhere occur in common conversation, as well as in philosophy, that is no proof that we are acquainted, in any instance, with the connecting principle between cause and effect, or can account ultimately for the production of one thing by another. These words, as commonly used, have very loose meanings annexed to them, and their ideas are very uncertain and confused. No animal can put external bodies in motion without the sentiment of a *nisus* or endeavor; and every animal has a sentiment or feeling from the stroke or blow of an external object that is in motion. These sensations, which are merely animal, and from which we can, *à priori*, draw no inference, we are apt to transfer to inanimate objects, and to suppose that they have some such feelings whenever they transfer or receive motion. With regard to energies, which are exerted without our annexing to them any idea of communicated motion, we consider only the constant experienced conjunction of the events; and as we *feel* a customary connection between the ideas, we transfer that feeling to the objects, as

† This note was first introduced in EDITION I.

To recapitulate, therefore, the reasonings of this Section: every idea is copied from some preceding impression or sentiment; and where we cannot find any impression, we may be certain that there is no idea. In all single instances of the operation of bodies or minds, there is nothing that produces any impression, nor consequently can suggest any idea, of power or necessary connection. But when many uniform instances appear, and the same object is always followed by the same event, we then begin to entertain the notion of cause and connection. We then *feel* a new sentiment or impression, to wit, a customary connection in the thought or imagination between one object and its usual attendant; and this sentiment is the original of that idea which we seek for. For as this idea arises from a number of similar instances, and not from any single instance, it must arise from that circumstance in which the number of instances differ from every individual instance. But this customary connection or transition of the imagination is the only circumstance in which they differ. In every other particular they are alike. The first instance which we saw of motion, communicated by the shock of two billiard-balls (to return to this obvious illustration), is exactly similar to any instance that may at present occur to us, except only that we could not at first *infer* one event from the other, which we are enabled to do at present, after so long a course of uniform experience. I know not whether the reader will readily apprehend this reasoning. I am afraid, that, should I multiply words

nothing is more usual than to apply to external bodies every internal sensation which they occasion.*

* Instead of this concluding passage there stood in EDITION I.—“A *cause* is different from a *sign*, as it implies precedency and contiguity in time and place, as well as constant conjunction. A *sign* is nothing but a correlative effect from the same cause.”

about it, or throw it into a greater variety of lights, it would only become more obscure and intricate. In all abstract reasonings, there is one point of view, which, if we can happily hit, we shall go further towards illustrating the subject than by all the eloquence and copious expression in the world. This point of view we should endeavor to reach, and reserve the flowers of rhetoric for subjects which are more adapted to them.

SECTION VIII.

OF LIBERTY AND NECESSITY.

PART I.

It might reasonably be expected, in questions which have been canvassed and disputed with great eagerness, since the first origin of science and philosophy, that the meaning of all the terms, at least, should have been agreed upon among the disputants, and our inquiries, in the course of two thousand years, been able to pass from words to the true and real subject of the controversy. For how easy may it seem to give exact definitions of the terms employed in reasoning, and make these definitions, not the mere sound of words, the object of future scrutiny and examination? But if we consider the matter more narrowly, we shall be apt to draw a quite opposite conclusion. From this circumstance alone, that a controversy has been long kept on foot, and remains still undecided, we may presume that there is some ambiguity in the expression, and that the disputants affix different ideas to the terms employed in the controversy. For as the faculties of the mind are supposed to be naturally alike in every individual—otherwise nothing could be more fruitless than to reason or dispute together

—it were impossible, if men affix the same ideas to their terms, that they could so long form different opinions of the same subject, especially when they communicate their views, and each party turn themselves on all sides, in search of arguments which may give them the victory over their antagonists. It is true, if men attempt the discussion of questions which lie entirely beyond the reach of human capacity, such as those concerning the origin of worlds, or the economy of the intellectual system or region of spirits, they may long beat the air in their fruitless contests, and never arrive at any determinate conclusion. But if the question regard any subject of common life and experience, nothing, one would think, could preserve the dispute so long undecided, but some ambiguous expressions, which keep the antagonists still at a distance, and hinder them from grappling with each other.

This has been the case in the long disputed question concerning liberty and necessity ; and to so remarkable a degree, that, if I be not much mistaken, we shall find that all mankind, both learned and ignorant, have always been of the same opinion with regard to this subject, and that a few intelligible definitions would immediately have put an end to the whole controversy. I own, that this dispute has been so much canvassed on all hands, and has led philosophers into such a labyrinth of obscure sophistry, that it is no wonder if a sensible reader indulge his ease so far as to turn a deaf ear to the proposal of such a question, from which he can expect neither instruction nor entertainment. But the state of the argument here proposed may, perhaps, serve to renew his attention, as it has more novelty, promises at least some decision of the controversy, and will not much disturb his ease by any intricate or obscure reasoning.

I hope, therefore, to make it appear, that all men have ever agreed in the doctrine both of necessity and of liberty, according to any reasonable sense which can be put on these terms, and that the whole controversy has hitherto turned merely upon words. We shall begin with examining the doctrine of necessity.

It is universally allowed, that matter, in all its operations, is actuated by a necessary force, and that every natural effect is so precisely determined by the energy of its cause, that no other effect, in such particular circumstances, could possibly have resulted from it. The degree and direction of every motion is, by the laws of nature, prescribed with such exactness, that a living creature may as soon arise from the shock of two bodies, as motion, in any other degree or direction, than what is actually produced by it. Would we, therefore, form a just and precise idea of *necessity*, we must consider whence that idea arises, when we apply it to the operation of bodies.

It seems evident, that if all the scenes of nature were continually shifted in such a manner, that no two events bore any resemblance to each other, but every object was entirely new, without any similitude to whatever had been seen before, we should never, in that case, have attained the least idea of necessity, or of a connection among these objects. We might say, upon such a supposition, that one object or event has followed another, not that one was produced by the other. The relation of cause and effect must be utterly unknown to mankind. Inference and reasoning concerning the operations of nature would, from that moment, be at an end; and the memory and senses remain the only canals by which the knowledge of any real existence could possibly have access to the mind. Our idea,

therefore, of necessity and causation, arises entirely from the uniformity observable in the operations of nature, where similar objects are constantly conjoined together, and the mind is determined by custom to infer the one from the appearance of the other. These two circumstances form the whole of that necessity which we ascribe to matter. Beyond the constant *conjunction* of similar objects, and the consequent *inference* from one to the other, we have no notion of any necessity of connection.

If it appear, therefore, that all mankind have ever allowed, without any doubt or hesitation, that these two circumstances take place in the voluntary actions of men, and in the operations of mind, it must follow, that all mankind have ever agreed in the doctrine of necessity, and that they have hitherto disputed, merely for not understanding each other.

As to the first circumstance, the constant and regular conjunction of similar events, we may possibly satisfy ourselves by the following considerations. It is universally acknowledged, that there is a great uniformity among the actions of men, in all nations and ages, and that human nature remains still the same in its principles and operations. The same motives always produce the same actions; the same events follow from the same causes. Ambition, avarice, self-love, vanity, friendship, generosity, public spirit; these passions, mixed in various degrees, and distributed through society, have been, from the beginning of the world, and still are, the source of all actions and enterprises which have ever been observed among mankind. Would you know the sentiments, inclinations, and course of life of the Greeks and Romans? Study well the temper and actions of the French and English: you cannot be much mistaken in

transferring to the former *most* of the observations which you have made with regard to the latter. Mankind are so much the same, in all times and places, that history informs us of nothing new or strange in this particular. Its chief use is only to discover the constant and universal principles of human nature, by showing men in all varieties of circumstances and situations, and furnishing us with materials from which we may form our observations, and become acquainted with the regular springs of human action and behavior. These records of wars, intrigues, factions, and revolutions, are so many collections of experiments, by which the politician or moral philosopher fixes the principles of his science, in the same manner as the physician or natural philosopher becomes acquainted with the nature of plants, minerals, and other external objects, by the experiments which he forms concerning them. Nor are the earth, water, and other elements, examined by Aristotle and Hippocrates, more like to those which at present lie under our observation, than the men described by Polybius and Tacitus are to those who now govern the world.

Should a traveller, returning from a far country, bring us an account of men wholly different from any with whom we were ever acquainted, men who were entirely divested of avarice, ambition, or revenge, who knew no pleasure but friendship, generosity, and public spirit, we should immediately, from these circumstances, detect the falsehood, and prove him a liar, with the same certainty as if he had stuffed his narration with stories of centaurs and dragons, miracles and prodigies. And if we would explode any forgery in history, we cannot make use of a more convincing argument than to prove, that the actions ascribed to any person are directly contrary to the course of nature, and that no

human motives, in such circumstances, could ever induce him to such a conduct. The veracity of Quintus Curtius is as much to be suspected, when he describes the supernatural courage of Alexander, by which he was hurried on singly to attack multitudes, as when he describes his supernatural force and activity, by which he was able to resist them. So readily and universally do we acknowledge a uniformity in human motives and actions, as well as in the operations of body.

Hence, likewise, the benefit of that experience, acquired by long life and a variety of business and company, in order to instruct us in the principles of human nature, and regulate our future conduct, as well as speculation. By means of this guide we mount up to the knowledge of men's inclinations and motives, from their actions, expressions, and even gestures; and again descend to the interpretation of their actions, from our knowledge of their motives and inclinations. The general observations, treasured up by a course of experience, give us the clue of human nature, and teach us to unravel all its intricacies. Pretexts and appearances no longer deceive us. Public declarations pass for the specious coloring of a cause. And though virtue and honor be allowed their proper weight and authority, that perfect disinterestedness, so often pretended to, is never expected in multitudes and parties, seldom in their leaders; and scarcely even in individuals of any rank or station. But were there no uniformity in human actions, and were every experiment, which we could form of this kind, irregular and anomalous, it were impossible to collect any general observations concerning mankind; and no experience, however accurately digested by reflection, would ever serve to any purpose. Why is the aged husbandman more skilful in his calling than the young

beginner, but because there is a certain uniformity in the operation of the sun, rain, and earth, towards the production of vegetables; and experience teaches the old practitioner the rules by which this operation is governed and directed?

We must not, however, expect that this uniformity of human actions should be carried to such a length, as that all men, in the same circumstances, will always act precisely in the same manner, without making any allowance for the diversity of characters, prejudices, and opinions. Such a uniformity, in every particular, is found in no part of nature. On the contrary, from observing the variety of conduct in different men, we are enabled to form a greater variety of maxims, which still suppose a degree of uniformity and regularity.

Are the manners of men different in different ages and countries? We learn thence the great force of custom and education, which mould the human mind from its infancy, and form it into a fixed and established character. Is the behavior and conduct of the one sex very unlike that of the other? It is thence we become acquainted with the different characters which Nature has impressed upon the sexes, and which she preserves with constancy and regularity. Are the actions of the same person much diversified in the different periods of his life, from infancy to old age? This affords room for many general observations concerning the gradual change of our sentiments and inclinations, and the different maxims which prevail in the different ages of human creatures. Even the characters which are peculiar to each individual have a uniformity in their influence; otherwise our acquaintance with the persons, and our observations of their conduct, could never teach us

their dispositions, or serve to direct our behavior with regard to them.

I grant it possible to find some actions, which seem to have no regular connection with any known motives, and are exceptions to all the measures of conduct which have ever been established for the government of men. But if we could willingly know what judgment should be formed of such irregular and extraordinary actions, we may consider the sentiments, commonly entertained with regard to those irregular events which appear in the course of nature, and the operations of external objects. All causes are not conjoined to their usual effects with like uniformity. An artificer, who handles only dead matter, may be disappointed of his aim, as well as the politician, who directs the conduct of sensible and intelligent agents.

The vulgar, who take things according to their first appearance, attribute the uncertainty of events to such an uncertainty in the causes, as makes the latter often fail of their usual influence; though they meet with no impediment in their operation. But philosophers, observing that, almost in every part of nature, there is contained a vast variety of springs and principles, which are hid, by reason of their minuteness or remoteness, find, that it is at least possible the contrariety of events may not proceed from any contingency in the cause, but from the secret operation of contrary causes. This possibility is converted into certainty by further observation, when they remark that, upon an exact scrutiny, a contrariety of effects always betrays a contrariety of causes, and proceeds from their mutual opposition. A peasant can give no better reason for the stopping of any clock or watch, than to say that it does not commonly go right: but an artist easily perceives, that the same

force in the spring or pendulum has always the same influence on the wheels; but fails of its usual effect, perhaps by reason of a grain of dust, which puts a stop to the whole movement. From the observation of several parallel instances, philosophers form a maxim, that the connection between all causes and effects is equally necessary, and that its seeming uncertainty in some instances proceeds from the secret opposition of contrary causes.

Thus, for instance, in the human body, when the usual symptoms of health or sickness disappoint our expectation; when medicines operate not with their wonted powers; when irregular events follow from any particular cause: the philosopher and physician are not surprised at the matter, nor are ever tempted to deny, in general, the necessity and uniformity of those principles, by which the animal economy is conducted. They know that a human body is a mighty complicated machine: that many secret powers lurk in it, which are altogether beyond our comprehension: that to us it must often appear very uncertain in its operations: and that therefore the irregular events, which outwardly discover themselves, can be no proof that the laws of Nature are not observed with the greatest regularity in its internal operations and government.

The philosopher, if he be consistent, must apply the same reasonings to the actions and volitions of intelligent agents. The most irregular and unexpected resolutions of men may frequently be accounted for by those who know every particular circumstance of their character and situation. A person of an obliging disposition gives a peevish answer: but he has the toothache, or has not dined. A stupid fellow discovers an uncommon alacrity in his carriage: but he has met with a sudden

piece of good fortune. Or even when an action, as sometimes happens, cannot be particularly accounted for, either by the person himself or by others ; we know, in general, that the characters of men are, to a certain degree, inconstant and irregular. This is, in a manner, the constant character of human nature ; though it be applicable, in a more particular manner, to some persons who have no fixed rule for their conduct, but proceed in a continued course of caprice and inconstancy. The internal principles and motives may operate in a uniform manner, notwithstanding these seeming irregularities ; in the same manner as the winds, rains, clouds, and other variations of the weather are supposed to be governed by steady principles ; though not easily discoverable by human sagacity and inquiry.

Thus it appears, not only that the conjunction between motives and voluntary actions is as regular and uniform as that between the cause and effect in any part of nature ; but also that this regular conjunction has been universally acknowledged among mankind, and has never been the subject of dispute, either in philosophy or common life. Now, as it is from past experience that we draw all inferences concerning the future, and as we conclude that objects will always be conjoined together, which we find to have always been conjoined ; it may seem superfluous to prove, that this experienced uniformity in human actions is a source whence we draw *inferences* concerning them. But in order to throw the argument into a greater variety of lights, we shall also insist, though briefly, on this latter topic.

The mutual dependence of men is so great in all societies, that scarce any human action is entirely complete in itself, or is performed without some reference to the actions of others, which are requisite to make it answer

fully the intention of the agent. The poorest artificer, who labors alone, expects at least the protection of the magistrate, to insure him the enjoyment of the fruits of his labor. He also expects, that when he carries his goods to market, and offers them at a reasonable price, he shall find purchasers; and shall be able, by the money he acquires, to engage others to supply him with those commodities which are requisite for his subsistence. In proportion as men extend their dealings, and render their intercourse with others more complicated, they always comprehend in their schemes of life a greater variety of voluntary actions, which they expect, from the proper motives, to coöperate with their own. In all these conclusions, they take their measures from past experience, in the same manner as in their reasonings concerning external objects; and firmly believe that men, as well as all the elements, are to continue in their operations the same that they have ever found them. A manufacturer reckons upon the labor of his servants for the execution of any work, as much as upon the tools which he employs, and would be equally surprised were his expectations disappointed. In short, this experimental inference and reasoning concerning the actions of others, enters so much into human life, that no man, while awake, is ever a moment without employing it. Have we not reason, therefore, to affirm, that all mankind have always agreed in the doctrine of necessity, according to the foregoing definition and explication of it?

Nor have philosophers ever entertained a different opinion from the people in this particular. For, not to mention, that almost every action of their life supposes that opinion, there are even few of the speculative parts of learning to which it is not essential. What would

become of *history*, had we not a dependence on the veracity of the historian, according to the experience which we have had of mankind? How could *politics* be a science, if laws and forms of government had not a uniform influence upon society? Where would be the foundation of *morals*, if particular characters had no certain or determinate power to produce particular sentiments, and if these sentiments had no constant operation on actions? And with what pretence could we employ our *criticism* upon any poet or polite author, if we could not pronounce the conduct and sentiments of his actors, either natural or unnatural, to such characters, and in such circumstances? It seems almost impossible, therefore, to engage either in science or action of any kind, without acknowledging the doctrine of necessity, and this *inference*, from motives to voluntary actions; from characters to conduct.

And, indeed, when we consider how aptly *natural* and *moral* evidence link together, and form only one chain of argument, we shall make no scruple to allow that they are of the same nature, and derived from the same principles. A prisoner who has neither money nor interest, discovers the impossibility of his escape, as well when he considers the obstinacy of the gaoler, as the walls and bars with which he is surrounded; and, in all attempts for his freedom, chooses rather to work upon the stone and iron of the one, than upon the inflexible nature of the other. The same prisoner, when conducted to the scaffold, foresees his death as certainly from the constancy and fidelity of his guards, as from the operation of the axe or wheel. His mind runs along a certain train of ideas: the refusal of the soldiers to consent to his escape; the action of the executioner; the separation of the head and body; bleeding, convul-

sive motions, and death. Here is a connected chain of natural causes and voluntary actions; but the mind feels no difference between them, in passing from one link to another, nor is less certain of the future event, than if it were connected with the objects present to the memory or senses, by a train of causes cemented together by what we are pleased to call a *physical* necessity. The same experienced union has the same effect on the mind, whether the united objects be motives, volition, and actions; or figure and motion. We may change the names of things, but their nature and their operation on the understanding never change.

[Were a man, whom I know to be honest and opulent, and with whom I lived in intimate friendship, to come into my house, where I am surrounded with my servants, I rest assured, that he is not to stab me before he leaves it, in order to rob me of my silver standish; and I no more suspect this event than the falling of the house itself, which is new, and solidly built and founded. *But he may have been seized with a sudden and unknown frenzy.* So may a sudden earthquake arise, and shake and tumble my house about my ears. I shall therefore change the suppositions. I shall say, that I know with certainty, that he is not to put his hand into the fire, and hold it there till it be consumed: and this event I think I can foretell with the same assurance, as that, if he throw himself out of the window, and meet with no obstruction, he will not remain a moment suspended in the air. No suspicion of an unknown frenzy can give the least possibility to the former event, which is so contrary to all the known principles of human nature. A man who at noon leaves his purse full of gold on the pavement at Charing-Cross, may as well expect that it will fly away like a feather, as that he will find it untouched an

hour after. Above one half of human reasonings contain inferences of a similar nature, attended with more or less degrees of certainty, proportioned to our experience of the usual conduct of mankind in such particular situations.]*

I have frequently considered, what could possibly be the reason why all mankind, though they have ever, without hesitation, acknowledged the doctrine of necessity in their whole practice and reasoning, have yet discovered such a reluctance to acknowledge it in words, and have rather shown a propensity, in all ages, to profess the contrary opinion. The matter, I think, may be accounted for after the following manner. If we examine the operations of body, and the production of effects from their causes, we shall find, that all our faculties can never carry us further in our knowledge of this relation, than barely to observe, that particular objects are *constantly conjoined* together, and that the mind is carried, by a *customary transition*, from the appearance of the one to the belief of the other. But though this conclusion concerning human ignorance be the result of the strictest scrutiny of this subject, men still entertain a strong propensity to believe, that they penetrate further into the powers of nature, and perceive something like a necessary connection between the cause and the effect. When, again, they turn their reflections towards the operations of their own minds, and *feel* no such connection of the motive and the action; they are thence apt to suppose, that there is a difference between the effects, which result from material force, and those which arise from thought and intelligence. But, being once convinced, that we know nothing further of causation of

* This paragraph occurs only in the last corrected Edition of 1777.—O.

any kind, than merely the *constant conjunction* of objects, and the consequent *inference* of the mind from one to another, and finding that these two circumstances are universally allowed to have place in voluntary actions; we may be more easily led to own the same necessity common to all causes. And though this reasoning may contradict the systems of many philosophers, in ascribing necessity to the determinations of the will, we shall find, upon reflection, that they dissent from it in words only, not in their real sentiments. Necessity, according to the sense in which it is here taken, has never yet been rejected, nor can ever, I think, be rejected by any philosopher. It may only, perhaps, be pretended, that the mind can perceive, in the operations of matter, some further connection between the cause and effect, and a connection that has not place in the voluntary actions of intelligent beings. Now, whether it be so or not, can only appear upon examination; and it is incumbent on these philosophers to make good their assertion, by defining or describing that necessity, and pointing it out to us in the operations of material causes.

It would seem, indeed, that men begin at the wrong end of this question concerning liberty and necessity, when they enter upon it by examining the faculties of the soul, the influence of the understanding, and the operations of the will. Let them first discuss a more simple question, namely, the operations of body and brute unintelligent matter; and try whether they can there form any idea of causation and necessity, except that of a constant conjunction of objects, and subsequent inference of the mind from one to another. If these circumstances form, in reality, the whole of that necessity which we conceive in matter, and if these circumstances be also universally acknowledged to take

place in the operations of the mind, the dispute is at an end; at least, must be owned to be thenceforth merely verbal. But as long as we will rashly suppose, that we have some further idea of necessity and causation in the operations of external objects; at the same time that we can find nothing further in the voluntary actions of the mind; there is no possibility of bringing the question to any determinate issue, while we proceed upon so erroneous a supposition. The only method of undeceiving us is to mount up higher; to examine the narrow extent of science when applied to material causes; and to convince ourselves, that all we know of them is the constant conjunction and inference above mentioned. We may, perhaps, find that it is with difficulty we are induced to fix such narrow limits to human understanding: but we can afterwards find no difficulty when we come to apply this doctrine to the actions of the will. For as it is evident that these have a regular conjunction with motives and circumstances and character, and as we always draw inferences from one to the other, we must be obliged to acknowledge in words, that necessity which we have already avowed in every deliberation of our lives, and in every step of our conduct and behavior.*

* The prevalence of the doctrine of liberty may be accounted for from another cause, viz. a false sensation, or seeming experience, which we have, or may have, of liberty or indifference in many of our actions. The necessity of any action, whether of matter or of the mind, is not, properly speaking, a quality in the agent, but in any thinking or intelligent being, who may consider the action; and it consists chiefly in the determination of his thoughts to infer the existence of that action from some preceding objects; as liberty, when opposed to necessity, is nothing but the want of that determination, and a certain looseness or indifference, which we feel in passing, or not passing, from the idea of one object to that of any succeeding one. Now we may observe, that though, in *reflecting* on human actions, we seldom feel such a looseness or indifference, but are commonly able to infer them with consider-

But to proceed in this reconciling project with regard to the question of liberty and necessity; the most contentious question of metaphysics, the most contentious science: it will not require many words to prove, that all mankind have ever agreed in the doctrine of liberty, as well as in that of necessity, and that the whole dispute, in this respect also, has been hitherto merely verbal. For what is meant by liberty, when applied to voluntary actions? We cannot surely mean, that actions have so little connection with motives, inclinations, and circumstances, that one does not follow with a certain degree of uniformity from the other, and that one affords no inference by which we can conclude the existence of the other. For these are plain and acknowledged matters of fact. By liberty, then, we can only mean *a power of acting or not acting according to the determinations of the will*; that is, if we choose to remain at rest, we may; if we choose to move, we also may. Now this hypothetical liberty is universally allowed to belong to

able certainty from their motives, and from the dispositions of the agent; yet it frequently happens, that in *performing* the actions themselves, we are sensible of something like it: and as all resembling objects are readily taken for each other, this has been employed as a demonstrative and even intuitive proof of human liberty. We feel that our actions are subject to our will on most occasions; and imagine we feel, that the will itself is subject to nothing, because, when by a denial of it we are provoked to try, we feel that it moves easily every way, and produces an image of itself (or a *Vellcity*, as it is called in the schools), even on that side on which it did not settle. This image, or faint motion, we persuade ourselves, could at that time have been completed into the thing itself; because, should that be denied, we find, upon a second trial, that at present it can. We consider not, that the fantastical desire of showing liberty is here the motive of our actions. And it seems certain, that however we may imagine we feel a liberty within ourselves, a spectator can commonly infer our actions from our motives and character; and even where he cannot, he concludes in general that he might, were he perfectly acquainted with every circumstance of our situation and temper, and the most secret springs of our complexion and disposition. Now this is the very essence of necessity, according to the foregoing doctrine.

every one who is not a prisoner and in chains. Here then is no subject of dispute.

Whatever definition we may give of liberty, we should be careful to observe two requisite circumstances; *first*, that it be consistent with plain matter of fact; *secondly*, that it be consistent with itself. If we observe these circumstances, and render our definition intelligible, I am persuaded that all mankind will be found of one opinion with regard to it.

It is universally allowed, that nothing exists without a cause of its existence; and that chance, when strictly examined, is a mere negative word, and means not any real power which has anywhere a being in nature. But it is pretended that some causes are necessary, some not necessary. Here then is the advantage of definitions. Let any one *define* a cause, without comprehending, as a part of the definition, a *necessary connection* with its effect; and let him show distinctly the origin of the idea expressed by the definition, and I shall readily give up the whole controversy. But if the foregoing explication of the matter be received, this must be absolutely impracticable. Had not objects a regular conjunction with each other, we should never have entertained any notion of cause and effect; and this regular conjunction produces that inference of the understanding, which is the only connection that we can have any comprehension of. Whoever attempts a definition of cause, exclusive of these circumstances, will be obliged either to employ unintelligible terms, or such as are synonymous to the term which he endeavors to define.* And if the defi-

* Thus, if a cause be defined, *that which produces any thing*, it is easy to observe, that *producing* is synonymous to *causing*. In like manner, if a cause be defined, *that by which any thing exists*; this is liable to the same objection. For what is meant by these words, *by which*? Had it been said that a cause

nition above mentioned be admitted, liberty, when opposed to necessity, not to constraint, is the same thing with chance, which is universally allowed to have no existence.

PART II.

There is no method of reasoning more common, and yet none more blamable, than, in philosophical disputes, to endeavor the refutation of any hypothesis, by a pretence of its dangerous consequences to religion and morality. When any opinion leads to absurdity, it is certainly false ; but it is not certain that an opinion is false because it is of dangerous consequence. Such topics, therefore, ought entirely to be forborne, as serving nothing to the discovery of truth, but only to make the person of an antagonist odious. This I observe in general, without pretending to draw any advantage from it. I frankly submit to an examination of this kind ; and shall venture to affirm, that the doctrines, both of necessity and liberty, as above explained, are not only consistent with morality,* but are absolutely essential to its support. |

Necessity may be defined two ways, conformably to the two definitions of *cause*, of which it makes an essential part. It consists either in the constant conjunction of like objects, or in the inference of the understanding from one object to another. Now necessity, in both

is that after which any thing constantly exists, we should have understood the terms. For this is, indeed, all we know of the matter. And this constancy forms the very essence of necessity, nor have we any other idea of it.

* Consistent with morality *and religion*, but are absolutely essential to them.—EDITIONS prior to O.

these senses (which, indeed, are at bottom the same), has universally, though tacitly, in the schools, in the pulpit, and in common life, been allowed to belong to the will of man ; and no one has ever pretended to deny, that we can draw inferences concerning human actions, and that those inferences are founded on the experienced union of like actions, with like motives, inclinations, and circumstances. The only particular in which any one can differ, is, that either perhaps he will refuse to give the name of necessity to this property of human actions; but as long as the meaning is understood, I hope the word can do no harm: or, that he will maintain it possible to discover something further in the operations of matter. But this, it must be acknowledged, can be of no consequence to morality or religion, whatever it may be to natural philosophy or metaphysics. We may here be mistaken in asserting, that there is no idea of any other necessity or connection in the actions of the body; but surely we ascribe nothing to the actions of the mind but what every one does and must readily allow of. We change no circumstance in the received orthodox system with regard to the will, but only in that with regard to material objects and causes. Nothing, therefore, can be more innocent at least than this doctrine.

All laws being founded on rewards and punishments, it is supposed, as a fundamental principle, that these motives have a regular and uniform influence on the mind, and both produce the good, and prevent the evil actions. We may give to this influence what name we please; but as it is usually conjoined with the action, it must be esteemed a *cause*, and be looked upon as an instance of that necessity which we would here establish.

The only proper object of hatred or vengeance, is a person or creature endowed with thought and consciousness; and when any criminal or injurious actions excite that passion, it is only by their relation to the person, or connection with him. Actions are, by their very nature, temporary and perishing; and where they proceed not from some *cause* in the character and disposition of the person who performed them, they can neither redound to his honor if good, nor infamy if evil. The actions themselves may be blamable; they may be contrary to all the rules of morality and religion: but the person is not answerable for them; and as they proceeded from nothing in him that is durable and constant, and leave nothing of that nature behind them, it is impossible he can, upon their account, become the object of punishment or vengeance. According to the principle, therefore, which denies necessity, and consequently causes, a man is as pure and untainted, after having committed the most horrid crime, as at the first moment of his birth, nor is his character anywise concerned in his actions, since they are not derived from it; and the wickedness of the one can never be used as a proof of the depravity of the other.

Men are not blamed for such actions as they perform ignorantly and casually, whatever may be the consequences. Why? but because the principles of these actions are only momentary, and terminate in them alone. Men are less blamed for such actions as they perform hastily and unpremeditatedly, than for such as proceed from deliberation. For what reason? but because a hasty temper, though a constant cause or principle in the mind, operates only by intervals, and infects not the whole character. Again, repentance wipes off every crime, if attended with a reformation

of life and manners. How is this to be accounted for? but by asserting, that actions render a person criminal, merely as they are proofs of criminal principles in the mind; and when, by an alteration of these principles, they cease to be just proofs, they likewise cease to be criminal. But, except upon the doctrine of necessity, they never were just proofs, and consequently never were criminal.

It will be equally easy to prove, and from the same arguments, that *liberty*, according to that definition above mentioned, in which all men agree, is also essential to morality, and that no human actions, where it is wanting, are susceptible of any moral qualities, or can be the objects either of approbation or dislike. For as actions are objects of our moral sentiment, so far only as they are indications of the internal character, passions, and affections, it is impossible that they can give rise either to praise or blame, where they proceed not from these principles, but are derived altogether from external violence.

I pretend not to have obviated or removed all objections to this theory, with regard to necessity and liberty. I can foresee other objections, derived from topics which have not here been treated of. It may be said, for instance, that if voluntary actions be subjected to the same laws of necessity with the operations of matter, there is a continued chain of necessary causes, preordained and predetermined, reaching from the Original Cause of all, to every single volition of every human creature. No contingency anywhere in the universe, no indifference, no liberty. While we act, we are, at the same time, acted upon. The ultimate Author of all our volitions is the Creator of the world, who first bestowed motion on this immense machine, and placed

all beings in that particular position, whence every subsequent event, by an inevitable necessity, must result. Human actions, therefore, either can have no moral turpitude at all, as proceeding from so good a cause; or if they have any turpitude, they must involve our Creator in the same guilt, while he is acknowledged to be their ultimate cause and author. For as a man, who fired a mine, is answerable for all the consequences, whether the train he employed be long or short, so, wherever a continued chain of necessary causes is fixed, that Being, either finite or infinite, who produces the first, is likewise the author of all the rest, and must both bear the blame, and acquire the praise, which belong to them. Our clear and unalterable ideas of morality establish this rule upon unquestionable reasons, when we examine the consequences of any human action; and these reasons must still have greater force, when applied to the volitions and intentions of a Being infinitely wise and powerful. Ignorance or impotence may be pleaded for so limited a creature as man; but those imperfections have no place in our Creator. He foresaw, he ordained, he intended all those actions of men, which we so rashly pronounce criminal. And we must therefore conclude, either that they are not criminal, or that the Deity, not man, is accountable for them. But as either of these positions is absurd and impious, it follows, that the doctrine from which they are deduced cannot possibly be true, as being liable to all the same objections. An absurd consequence, if necessary, proves the original doctrine to be absurd, in the same manner as criminal actions render criminal the original cause, if the connection between them be necessary and inevitable.

This objection consists of two parts, which we shall examine separately: *First*, That if human actions can be traced up, by a necessary chain, to the Deity, they can never be criminal, on account of the infinite perfection of that Being from whom they are derived, and who can intend nothing but what is altogether good and laudable. Or, *secondly*, If they be criminal, we must retract the attribute of perfection which we ascribe to the Deity, and must acknowledge him to be the ultimate author of guilt and moral turpitude in all his creatures.

The answer to the first objection seems obvious and convincing. There are many philosophers, who, after an exact scrutiny of the phenomena of Nature, conclude that the WHOLE, considered as one system, is, in every period of its existence, ordered with perfect benevolence; and that the utmost possible happiness will, in the end, result to all created beings, without any mixture of positive or absolute ill and misery. Every physical ill, say they, makes an essential part of this benevolent system, and could not possibly be removed, by even the Deity himself, considered as a wise agent, without giving entrance to greater ill, or excluding greater good, which will result from it. From this theory some philosophers, and the ancient *Stoics* among the rest, derived a topic of consolation under all afflictions, while they taught their pupils, that those ills under which they labored, were, in reality, goods to the universe; and that, to an enlarged view, which could comprehend the whole system of Nature, every event became an object of joy and exultation. But though this topic be specious and sublime, it was soon found in practice weak and ineffectual. You would surely more irritate than appease a

man, lying under the racking pains of the gout, by preaching up to him the rectitude of those general laws which produced the malignant humors in his body, and led them through the proper canals, to the sinews and nerves, where they now excite such acute torments. These enlarged views may, for a moment, please the imagination of a speculative man, who is placed in ease and security; but neither can they dwell with constancy on his mind, even though undisturbed by the emotions of pain or passion, much less can they maintain their ground when attacked by such powerful antagonists. The affections take a narrower and more natural survey of their object; and by an economy, more suitable to the infirmity of human minds, regard alone the beings around us, and are actuated by such events as appear good or ill to the private system.

The case is the same with *moral* as with *physical* ill. It cannot reasonably be supposed that those remote considerations, which are found of so little efficacy with regard to the one, will have a more powerful influence with regard to the other. The mind of man is so formed by Nature, that upon the appearance of certain characters, dispositions, and actions, it immediately feels the sentiment of approbation or blame; nor are there any emotions more essential to its frame and constitution. The characters which engage our approbation are chiefly such as contribute to the peace and security of human society; as the characters which excite blame are chiefly such as tend to public detriment and disturbance: whence it may reasonably be presumed, that the moral sentiments arise, either mediately or immediately, from a reflection on these opposite interests. What though philosophical meditations establish a different opinion or conjecture, that every thing is right with regard to the whole, and

that the qualities which disturb society are, in the main, as beneficial, and are as suitable to the primary intention of Nature, as those which more directly promote its happiness and welfare? Are such remote and uncertain speculations able to counterbalance the sentiments which arise from the natural and immediate view of the objects? A man who is robbed of a considerable sum — does he find his vexation for the loss anywise diminished by these sublime reflections? Why, then, should his moral resentment against the crime be supposed incompatible with them? Or why should not the acknowledgment of a real distinction between vice and virtue be reconcilable to all speculative systems of philosophy, as well as that of a real distinction between personal beauty and deformity? Both these distinctions are founded in the natural sentiments of the human mind; and these sentiments are not to be controlled or altered by any philosophical theory or speculation whatsoever.

The *second* objection admits not of so easy and satisfactory an answer; nor is it possible to explain distinctly, how the Deity can be the immediate cause of all the actions of men, without being the author of sin and moral turpitude. These are mysteries which mere natural and unassisted reason is very unfit to handle; and whatever system she embraces, she must find herself involved in inextricable difficulties, and even contradictions, at every step which she takes with regard to such subjects. To reconcile the indifference and contingency of human actions with prescience, or to defend absolute decrees, and yet free the Deity from being the author of sin, has been found hitherto to exceed all the power of philosophy. Happy, if she be thence sensible of her temerity, when she pries into these sublime mysteries; and, leaving a scene so full of obscurities and perplexi-

ties, return, with suitable modesty, to her true and proper province, the examination of common life, where she will find difficulties enough to employ her inquiries, without launching into so boundless an ocean of doubt, uncertainty, and contradiction.

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SECTION IX.

OF THE REASON OF ANIMALS.

ALL our reasonings concerning matter of fact are founded on a species of ANALOGY, which leads us to expect from any cause the same events which we have observed to result from similar causes. Where the causes are entirely similar, the analogy is perfect, and the inference drawn from it is regarded as certain and conclusive: nor does any man ever entertain a doubt, where he sees a piece of iron, that it will have weight and cohesion of parts, as in all other instances which have ever fallen under his observation. But where the objects have not so exact a similarity, the analogy is less perfect, and the inference is less conclusive; though still it has some force, in proportion to the degree of similarity and resemblance. The anatomical observations formed upon an animal, are, by this species of reasoning, extended to all animals: and it is certain that, when the circulation of the blood, for instance, is clearly proved to have place in one creature, as a frog, or fish, it forms a strong presumption that the same principle has place in all. These analogical observations may be carried further, even to this science of which we are now treating; and any theory, by which

we explain the operations of the understanding, or the origin and connection of the passions in man, will acquire additional authority if we find that the same theory is requisite to explain the same phenomena in all other animals. We shall make trial of this, with regard to the hypothesis by which we have, in the foregoing discourse, endeavored to account for all experimental reasonings; and it is hoped that this new point of view will serve to confirm all our former observations.

First, It seems evident that animals, as well as men, learn many things from experience, and infer that the same events will always follow from the same causes. By this principle they become acquainted with the more obvious properties of external objects, and gradually, from their birth, treasure up a knowledge of the nature of fire, water, earth, stones, heights, depths, etc. and of the effects which result from their operation. The ignorance and inexperience of the young are here plainly distinguishable from the cunning and sagacity of the old, who have learned, by long observation, to avoid what hurt them, and to pursue what gave ease or pleasure. A horse that has been accustomed to the field, becomes acquainted with the proper height which he can leap, and will never attempt what exceeds his force and ability. An old greyhound will trust the more fatiguing part of the chase to the younger, and will place himself so as to meet the hare in her doubles; nor are the conjectures which he forms on this occasion founded in any thing but his observation and experience.

This is still more evident from the effects of discipline and education on animals, who, by the proper application of rewards and punishments, may be taught any course of action, the most contrary to their natural in-

instincts and propensities. Is it not experience which renders a dog apprehensive of pain, when you menace him, or lift up the whip to beat him? Is it not even experience which makes him answer to his name, and infer, from such an arbitrary sound, that you mean him rather than any of his fellows, and intend to call him, when you pronounce it in a certain manner, and with a certain tone and accent?

In all these cases we may observe, that the animal infers some fact beyond what immediately strikes his senses; and that this inference is altogether founded on past experience, while the creature expects from the present object the same consequences which it has always found in its observation to result from similar objects.

Secondly, It is impossible that this inference of the animal can be founded on any process of argument or reasoning, by which he concludes that like events must follow like objects, and that the course of nature will always be regular in its operations. For if there be in reality any arguments of this nature, they surely lie too abstruse for the observation of such imperfect understandings; since it may well employ the utmost care and attention of a philosophic genius to discover and observe them. Animals, therefore, are not guided in these inferences by reasoning: neither are children: neither are the generality of mankind in their ordinary actions and conclusions: neither are philosophers themselves, who, in all the active parts of life, are in the main the same with the vulgar, and are governed by the same maxims. Nature must have provided some other principle, of more ready and more general use and application; nor can an operation of such immense consequences in life as that of inferring effects from

causes, be trusted to the uncertain process of reasoning and argumentation. Were this doubtful with regard to men, it seems to admit of no question with regard to the brute creation; and the conclusion being once firmly established in the one, we have a strong presumption, from all the rules of analogy, that it ought to be universally admitted, without any exception or reserve. It is custom alone which engages animals, from every object that strikes their senses, to infer its usual attendant, and carries their imagination, from the appearance of the one to conceive the other, in that particular manner which we denominate *belief*. No other explication can be given of this operation, in all the higher as well as lower classes of sensitive beings which fall under our notice and observation.*

* Since all reasonings concerning facts or causes is derived merely from custom, it may be asked, how it happens that men so much surpass animals in reasoning, and one man so much surpasses another? Has not the same custom the same influence on all?

We shall here endeavor briefly to explain the great difference in human understandings: after which, the reason of the difference between men and animals will easily be comprehended.

1. When we have lived any time, and have been accustomed to the uniformity of nature, we acquire a general habit, by which we always transfer the known to the unknown, and conceive the latter to resemble the former. By means of this general habitual principle, we regard even one experiment as the foundation of reasoning, and expect a similar event with some degree of certainty, where the experiment has been made accurately, and free from all foreign circumstances. It is therefore considered as a matter of great importance to observe the consequences of things; and as one man may very much surpass another in attention, and memory, and observation, this will make a very great difference in their reasoning.

2. Where there is a complication of causes to produce any effect one mind may be much larger than another, and better able to comprehend the whole system of objects, and to infer justly their consequences.

3. One man is able to carry on a chain of consequences to a greater length than another.

4. Few men can think long without running into a confusion of ideas,

{But though animals learn many parts of their knowledge from observation, there are also many parts of it which they derive from the original hand of Nature, which much exceed the share of capacity they possess on ordinary occasions, and in which they improve, little or nothing, by the longest practice and experience. These we denominate INSTINCTS, and are so apt to admire as something very extraordinary and inexplicable by all the disquisitions of human understanding. But our wonder will perhaps cease or diminish when we consider that the experimental reasoning itself, which we possess in common with beasts, and on which the whole conduct of life depends, is nothing but a species of instinct or mechanical power, that acts in us unknown to ourselves, and in its chief operations is not directed by any such relations or comparison of ideas as are the proper objects

and mistaking one for another; and there are various degrees of this infirmity.

5. The circumstance on which the effect depends is frequently involved in other circumstances, which are foreign and extrinsic. The separation of it often requires great attention, accuracy, and subtilty.

6. The forming of general maxims from particular observation is a very nice operation; and nothing is more usual, from haste or a narrowness of mind, which sees not on all sides, than to commit mistakes in this particular.

7. When we reason from analogies, the man who has the greater experience or the greater promptitude of suggesting analogies, will be the better reasoner.

8. Biases from prejudice, education, passion, party, etc. hang more upon one mind than another.

9. After we have acquired a confidence in human testimony, books and conversation enlarge much more the sphere of one man's experience and thought than those of another.

It would be easy to discover many other circumstances that make a difference in the understandings of men.*

* This note first appears in EDITION L.

of our intellectual faculties. Though the instinct be different, yet still it is an instinct, which teaches a man to avoid the fire, as much as that which teaches a bird, with such exactness, the art of incubation, and the whole economy and order of its nursery.

SECTION X.

OF MIRACLES.

PART I.

THERE is, in Dr. Tillotson's writings, an argument against the *real presence*, which is as concise, and elegant, and strong, as any argument can possibly be supposed against a doctrine so little worthy of a serious refutation. It is acknowledged on all hands, says that learned prelate, that the authority, either of the Scripture or of tradition, is founded merely on the testimony of the Apostles, who were eyewitnesses to those miracles of our Saviour, by which he proved his divine mission. Our evidence, then, for the truth of the *Christian* religion, is less than the evidence for the truth of our senses; because, even in the first authors of our religion, it was no greater; and it is evident it must diminish in passing from them to their disciples; nor can any one rest such confidence in their testimony as in the immediate object of his senses. But a weaker evidence can never destroy a stronger; and therefore, were the doctrine of the real presence ever so clearly revealed in Scripture, it were directly contrary to the rules of just reasoning to give our assent to it. It contradicts sense, though both the Scripture and tradition, on which it is supposed to be

built, carry not such evidence with them as sense, when they are considered merely as external evidences, and are not brought home to every one's breast by the immediate operation of the Holy Spirit.

Nothing is so convenient as a decisive argument of this kind, which must at least *silence* the most arrogant bigotry and superstition, and free us from their impertinent solicitations. I flatter myself that I have discovered an argument of a like nature, which, if just, will, with the wise and learned, be an everlasting check to all kinds of superstitious delusion, and consequently will be useful as long as the world endures; for so long, I presume, will the accounts of miracles and prodigies be found in all history, sacred and profane.*

Though experience be our only guide in reasoning concerning matters of fact, it must be acknowledged, that this guide is not altogether infallible, but in some cases is apt to lead us into errors. One who in our climate should expect better weather in any week of June than in one of December, would reason justly and conformably to experience; but it is certain that he may happen, in the event, to find himself mistaken. However, we may observe that, in such a case, he would have no cause to complain of experience, because it commonly informs us beforehand of the uncertainty, by that contrariety of events which we may learn from a diligent observation. All effects follow not with like certainty from their supposed causes. Some events are found, in all countries and all ages, to have been constantly conjoined together: others are found to have been more variable, and sometimes to disappoint our expectations; so that in our reasonings concerning matter of fact,

* "In all profane history."—EDITIONS K and L.

there are all imaginable degrees of assurance, from the highest certainty to the lowest species of moral evidence.

A wise man, therefore, proportions his belief to the evidence. In such conclusions as are founded on an infallible experience, he expects the event with the last degree of assurance, and regards his past experience as a full *proof* of the future existence of that event. In other cases he proceeds with more caution: he weighs the opposite experiments: he considers which side is supported by the greater number of experiments: to that side he inclines with doubt and hesitation; and when at last he fixes his judgment, the evidence exceeds not what we properly call *probability*. All probability, then, supposes an opposition of experiments and observations, where the one side is found to overbalance the other, and to produce a degree of evidence proportioned to the superiority. A hundred instances or experiments on one side, and fifty on another, afford a doubtful expectation of any event; though a hundred uniform experiments, with only one that is contradictory, reasonably beget a pretty strong degree of assurance. In all cases, we must balance the opposite experiments, where they are opposite, and deduct the smaller number from the greater, in order to know the exact force of the superior evidence.

To apply these principles to a particular instance; we may observe, that there is no species of reasoning more common, more useful, and even necessary to human life, than that which is derived from the testimony of men, and the reports of eyewitnesses and spectators. This species of reasoning, perhaps, one may deny to be founded on the relation of cause and effect. I shall not dispute about a word. It will be sufficient

to observe, that our assurance in any argument of this kind is derived from no other principle than our observation of the veracity of human testimony, and of the usual conformity of facts to the report of witnesses. It being a general maxim that no objects have any discoverable connection together, and that all the inferences which we can draw from one to another, are founded merely on our experience of their constant and regular conjunction, it is evident that we ought not to make an exception to this maxim in favor of human testimony, whose connection with any event seems, in itself, as little necessary as any other. Were not the memory tenacious to a certain degree; had not men commonly an inclination to truth and a principle of probity; were they not sensible to shame when detected in a falsehood: were not these, I say, discovered by *experience* to be qualities inherent in human nature, we should never repose the least confidence in human testimony. A man delirious, or noted for falsehood and villany, has no manner of authority with us.

And as the evidence derived from witnesses and human testimony is founded on past experience, so it varies with the experience, and is regarded either as a *proof* or a *probability*, according as the conjunction between any particular kind of report, and any kind of object, has been found to be constant or variable. There are a number of circumstances to be taken into consideration in all judgments of this kind; and the ultimate standard by which we determine all disputes that may arise concerning them, is always derived from experience and observation. Where this experience is not entirely uniform on any side, it is attended with an unavoidable contrariety in our judgments, and with the same opposition and mutual destruction of argument as

in every other kind of evidence. We frequently hesitate concerning the reports of others. We balance the opposite circumstances which cause any doubt or uncertainty; and when we discover a superiority on any side, we incline to it, but still with a diminution of assurance, in proportion to the force of its antagonist.

This contrariety of evidence, in the present case, may be derived from several different causes; from the opposition of contrary testimony; from the character or number of the witnesses; from the manner of their delivering their testimony; or from the union of all these circumstances. We entertain a suspicion concerning any matter of fact when the witnesses contradict each other; when they are but few or of a doubtful character; when they have an interest in what they affirm; when they deliver their testimony with hesitation, or, on the contrary, with too violent asseverations. There are many other particulars of the same kind, which may diminish or destroy the force of any argument derived from human testimony.

Suppose, for instance, that the fact which the testimony endeavors to establish partakes of the extraordinary and the marvellous, in that case, the evidence resulting from the testimony admits of a diminution, greater or less, in proportion as the fact is more or less unusual. The reason why we place any credit in witnesses and historians, is not derived from any *connection* which we perceive *à priori* between testimony and reality, but because we are accustomed to find a conformity between them. But when the fact attested is such a one as has seldom fallen under our observation, here is a contest of two opposite experiences, of which the one destroys the other as far as its force goes, and the superior can only operate on the mind by the force

which remains. The very same principle of experience, which gives us a certain degree of assurance in the testimony of witnesses, gives us also, in this case, another degree of assurance against the fact which they endeavor to establish; from which contradiction there necessarily arises a counterpoise, and mutual destruction of belief and authority.

I should not believe such a story were it told me by CATO, was a proverbial saying in Rome, even during the lifetime of that philosophical patriot.* The incredibility of a fact, it was allowed, might invalidate so great an authority.

The Indian prince, who refused to believe the first relations concerning the effects of frost, reasoned justly; and it naturally required very strong testimony to engage his assent to facts that arose from a state of nature with which he was ^{well} acquainted, and which bore so little analogy to those events of which he had had constant and uniform experience. Though they were not contrary to his experience, they were not conformable to it.†

* Plutarch. in vita Catonis.

† No Indian, it is evident, could have experience that water did not freeze in cold climates. This is placing nature in a situation quite unknown to him; and it is impossible for him to tell *à priori* what will result from it. It is making a new experiment, the consequence of which is always uncertain. One may sometimes conjecture from analogy what will follow; but still this is but conjecture. And it must be confessed, that, in the present case of freezing, the event follows contrary to the rules of analogy, and is such as a rational Indian would not look for. The operations of cold upon water are not gradual, according to the degrees of cold; but whenever it comes to the freezing point, the water passes in a moment, from the utmost liquidity to perfect hardness. Such an event, therefore, may be denominated *extraordinary*, and requires a pretty strong testimony, to render it credible to people in a warm climate: but still it is not *miraculous*, nor contrary to uniform experience of the course of nature in cases where all the circumstances are the same. The inhabitants of Sumatra have always seen water fluid in their own climate, and

But in order to increase the probability against the testimony of witnesses, let us suppose that the fact which they affirm, instead of being only marvellous, is really miraculous; and suppose also, that the testimony, considered apart and in itself, amounts to an entire proof, in that case there is proof against proof, of which the strongest must prevail, but still with a diminution of its force, in proportion to that of its antagonist.

A miracle is a violation of the laws of nature; and as a firm and unalterable experience has established these laws, the proof against a miracle, from the very nature of the fact, is as entire as any argument from experience can possibly be imagined. Why is it more than probable that all men must die; that lead cannot, of itself, remain suspended in the air; that fire consumes wood, and is extinguished by water; unless it be that these events are found agreeable to the laws of nature, and there is required a violation of these laws, or, in other words, a miracle to prevent them? Nothing is esteemed a miracle, if it ever happen in the common course of nature. It is no miracle that a man, seemingly in good health, should die on a sudden; because such a kind of death, though more unusual than any other, has yet been frequently observed to happen. But it is a miracle that a dead man should come to life; because that has never been observed in any age or country. There must, therefore, be an uniform experience against every miraculous event, otherwise the event would not merit that appellation. And as an uniform experience amounts to a proof, there is here a direct and full *proof*, from the nature of the fact, against the existence of any miracle;

the freezing of their rivers ought to be deemed a prodigy: but they never saw water in Muscovy during the winter; and therefore they cannot reasonably be positive what would there be the consequence.

nor can such a proof be destroyed, or the miracle rendered credible, but by an opposite proof, which is superior.*

The plain consequence is (and it is a general maxim worthy of our attention), "That no testimony is sufficient to establish a miracle, unless the testimony be of such a kind, that its falsehood would be more miraculous than the fact which it endeavors to establish: and even in that case there is a mutual destruction of arguments, and the superior only gives us an assurance suitable to that degree of force which remains after deducting the inferior." When any one tells me that he saw a dead man restored to life, I immediately consider with myself whether it be more probable that this person should either deceive or be deceived, or that the fact which he relates should really have happened. I weigh the one miracle against the other; and according to the superiority which I discover, I pronounce my decision, and always reject the greater miracle. If the falsehood of his testi-

* Sometimes an event may not, *in itself*, seem to be contrary to the laws of nature, and yet, if it were real, it might, by reason of some circumstances, be denominated a miracle; because, in *fact*, it is contrary to these laws. Thus if a person, claiming a divine authority, should command a sick person to be well, a healthful man to fall down dead, the clouds to pour rain, the winds to blow; in short, should order many natural events, which immediately follow upon his command; these might justly be esteemed miracles, because they are really, in this case, contrary to the laws of nature. For if any suspicion remain, that the event and command concurred by accident, there is no miracle and no transgression of the laws of nature. If this suspicion be removed, there is evidently a miracle, and a transgression of these laws; because nothing can be more contrary to nature than that the voice or command of a man should have such an influence. A miracle may be accurately defined, *a transgression of a law of nature by a particular volition of the Deity, or by the interposition of some invisible agent*. A miracle may either be discovered by men or not. This alters not its nature and essence. The raising of a house or ship into the air is a visible miracle. The raising of a feather, when the wind wants ever so little of a force requisite for that purpose, is as real a miracle, though not so sensible with regard to us.

mony would be more miraculous than the event which he relates, then, and not till then, can he pretend to command my belief or opinion.

PART II.

In the foregoing reasoning we have supposed, that the testimony upon which a miracle is founded, may possibly amount to entire proof, and that the falsehood of that testimony would be a real prodigy: but it is easy to show that we have been a great deal too liberal in our concession, and that there never was a miraculous event established on so full an evidence.

For, *first*, There is not to be found, in all history, any miracle attested by a sufficient number of men, of such unquestioned good sense, education, and learning, as to secure us against all delusion in themselves; of such undoubted integrity, as to place them beyond all suspicion of any design to deceive others; of such credit and reputation in the eyes of mankind, as to have a great deal to lose in case of their being detected in any falsehood; and at the same time attesting facts, performed in such a public manner, and in so celebrated a part of the world, as to render the detection unavoidable: all which circumstances are requisite to give us a full assurance in the testimony of men.

Secondly, We may observe in human nature a principle which, if strictly examined, will be found to diminish extremely the assurance, which we might, from human testimony, have in any kind of prodigy. The maxim, by which we commonly conduct ourselves in our reasonings, is, that the objects, of which we have no experience, resemble those of which we have; that what we have

found to be most usual is always most probable ; and that where there is an opposition of arguments, we ought to give the preference to such as are founded on the greatest number of past observations. But though, in proceeding by this rule, we readily reject any fact which is unusual and incredible in an ordinary degree ; yet in advancing further, the mind observes not always the same rule ; but when any thing is affirmed utterly absurd and miraculous, it rather the more readily admits of such a fact, upon account of that very circumstance which ought to destroy all its authority. The passion of *surprise* and *wonder*, arising from miracles, being an agreeable emotion, gives a sensible tendency towards the belief of those events from which it is derived. And this goes so far, that even those who cannot enjoy this pleasure immediately, nor can believe those miraculous events of which they are informed, yet love to partake the satisfaction at second hand, or by rebound, and place a pride and delight in exciting the admiration of others.

With what greediness are the miraculous accounts of travellers received, their descriptions of sea and land monsters, their relations of wonderful adventures, strange men, and uncouth manners ? But if the spirit of religion join itself to the love of wonder, there is an end of common sense ; and human testimony, in these circumstances, loses all pretensions to authority. A religionist may be an enthusiast, and imagine he sees what has no reality : he may know his narrative to be false, and yet persevere in it, with the best intentions in the world, for the sake of promoting so holy a cause : or even where this delusion has not place, vanity, excited by so strong a temptation, operates on him more powerfully than on the rest of mankind in any other

circumstances ; and self-interest with equal force. His auditors may not have, and commonly have not, sufficient judgment to canvass his evidence : what judgment they have, they renounce by principle, in these sublime and mysterious subjects : or if they were ever so willing to employ it, passion and a heated imagination disturb the regularity of its operations. Their credulity increases his impudence ; and his impudence overpowers their credulity.

Eloquence, when at its highest pitch, leaves little room for reason or reflection ; but addressing itself entirely to the fancy or the affections, captivates the willing hearers, and subdues their understanding. Happily, this pitch it seldom attains. But what a Tully or a Demosthenes could scarcely effect over a Roman or Athenian audience, every *Capuchin*, every itinerant or stationary teacher, can perform over the generality of mankind, and in a higher degree, by touching such gross and vulgar passions.

The many instances of forged miracles and prophecies and supernatural events, which, in all ages, have either been detected by contrary evidence, or which detect themselves by their absurdity, prove sufficiently the strong propensity of mankind to the extraordinary and marvellous, and ought reasonably to beget a suspicion against all relations of this kind. This is our natural way of thinking, even with regard to the most common and most credible events. For instance, there is no kind of report which arises so easily, and spreads so quickly, especially in country places and provincial towns, as those concerning marriages ; insomuch that two young persons of equal condition never see each other twice, but the whole neighborhood immediately join them together. The pleasure of telling a piece of

news so interesting, of propagating it, and of being the first reporters of it, spreads the intelligence ; and this is so well known, that no man of sense gives attention to these reports till he find them confirmed by some greater evidence. Do not the same passions, and others still stronger, incline the generality of mankind to believe and report, with the greatest vehemence and assurance, all religious miracles ?

Thirdly, It forms a strong presumption against all supernatural and miraculous relations, that they are observed chiefly to abound among ignorant and barbarous nations ; or if a civilized people has ever given admission to any of them, that people will be found to have received them from ignorant and barbarous ancestors, who transmitted them with that inviolable sanction and authority which always attend received opinions. When we peruse the first histories of all nations, we are apt to imagine ourselves transported into some new world, where the whole frame of nature is disjointed, and every element performs its operations in a different manner from what it does at present. Battles, revolutions, pestilence, famine, and death, are never the effect of those natural causes which we experience. Prodiges, omens, oracles, judgments, quite obscure the few natural events that are intermingled with them. But as the former grow thinner every page, in proportion as we advance nearer the enlightened ages, we soon learn that there is nothing mysterious or supernatural in the case, but that all proceeds from the usual propensity of mankind towards the marvellous, and that, though this inclination may at intervals receive a check from sense and learning, it can never be thoroughly extirpated from human nature.

It is strange, a judicious reader is apt to say, upon the

perusal of these wonderful historians, *that such prodigious events never happen in our days!* But it is nothing strange, I hope, that men should lie in all ages. You must surely have seen instances enough of that frailty. You have yourself heard many such marvellous relations started, which, being treated with scorn by all the wise and judicious, have at last been abandoned even by the vulgar. Be assured, that those renowned lies, which have spread and flourished to such a monstrous height, arose from like beginnings; but being sown in a more proper soil, shot up at last into prodigies almost equal to those which they relate.

It was a wise policy in that false prophet Alexander, who, though now forgotten, was once so famous, to lay the first scene of his impostures in Paphlagonia, where, as Lucian tells us, the people were extremely ignorant and stupid, and ready to swallow even the grossest delusion. People at a distance, who are weak enough to think the matter at all worthy inquiry, have no opportunity of receiving better information. The stories come magnified to them by a hundred circumstances. Fools are industrious in propagating the imposture; while the wise and learned are contented, in general, to deride its absurdity, without informing themselves of the particular facts by which it may be distinctly refuted. And thus the impostor above mentioned was enabled to proceed, from his ignorant Paphlagonians, to the enlisting of votaries, even among the Grecian philosophers, and men of the most eminent rank and distinction in Rome: nay, could engage the attention of that sage emperor Marcus Aurelius, so far as to make him trust the success of a military expedition to his delusive prophecies.

The advantages are so great, of starting an imposture

among an ignorant people, that even though the delusion should be too gross to impose on the generality of them, (*which, though seldom, is sometimes the case,*) it has a much better chance for succeeding in remote countries, than if the first scene had been laid in a city renowned for arts and knowledge. The most ignorant and barbarous of these barbarians carry the report abroad. None of their countrymen have a large correspondence, or sufficient credit and authority to contradict and beat down the delusion. Men's inclination to the marvellous has full opportunity to display itself. And thus a story, which is universally exploded in the place where it was first started, shall pass for certain at a thousand miles distance. But, had Alexander fixed his residence at Athens, the philosophers at that renowned mart of learning had immediately spread, throughout the whole Roman empire, their sense of the matter; which, being supported by so great authority, and displayed by all the force of reason and eloquence, had entirely opened the eyes of mankind. It is true, Lucian, passing by chance through Paphlagonia, had an opportunity of performing this good office. But, though much to be wished, it does not always happen that every Alexander meets with a Lucian, ready to expose and detect his impostures.*

I may add, as a *fourth* reason, which diminishes the

* It may perhaps be objected that I proceed rashly, and form my notions of Alexander merely from the account given of him by Lucian, a professed enemy. It were indeed to be wished that some of the accounts published by his followers and accomplices had remained. The opposition and contrast betwixt the character and conduct of the same man as drawn by a friend or an enemy, is as strong, even in common life, much more in these religious matters, as that betwixt any two men in the world; betwixt Alexander and St. Paul, for instance. See a Letter to Gilbert West, Esq., on the Conversion and Apostleship of St. Paul. *Note in the early Editions previous to O.*

authority of prodigies, that there is no testimony for any, even those which have not been expressly detected, that is not opposed by an infinite number of witnesses; so that not only the miracle destroys the credit of testimony, but the testimony destroys itself. To make this the better understood, let us consider, that in matters of religion, whatever is different is contrary; and that it is impossible the religions of ancient Rome, of Turkey, of Siam, and of China, should all of them be established on any solid foundation. Every miracle, therefore, pretended to have been wrought in any of these religions, (and all of them abound in miracles,) as its direct scope is to establish the particular system to which it is attributed; so has it the same force, though more indirectly, to overthrow every other system. In destroying a rival system, it likewise destroys the credit of those miracles on which that system was established, so that all the prodigies of different religions are to be regarded as contrary facts, and the evidences of these prodigies, whether weak or strong, as opposite to each other. According to this method of reasoning, when we believe any miracle of Mahomet or his successors, we have for our warrant the testimony of a few barbarous Arabians: and, on the other hand, we are to regard the authority of Titus Livius, Plutarch, Tacitus, and, in short, of all the authors and witnesses, Grecian, Chinese, and Roman Catholic, who have related any miracle in their particular religion; I say, we are to regard their testimony in the same light as if they had mentioned the Mahometan miracle, and had in express terms contradicted it, with the same certainty as they have for the miracle they relate. This argument may appear over subtle and refined, but is not in reality different from the reasoning of a judge, who supposes that the credit of two witnesses, maintain-

ing a crime against any one, is destroyed by the testimony of two others, who affirm him to have been two hundred leagues distant at the same instant when the crime is said to have been committed.

One of the best attested miracles in all profane history, is that which Tacitus reports of Vespasian, who cured a blind man in Alexandria by means of his spittle, and a lame man by the mere touch of his foot; in obedience to a vision of the god Serapis, who had enjoined them to have recourse to the Emperor for these miraculous cures. The story may be seen in that fine historian;* where every circumstance seems to add weight to the testimony, and might be displayed at large with all the force of argument and eloquence, if any one were now concerned to enforce the evidence of that exploded and idolatrous superstition. The gravity, solidity, age, and probity of so great an Emperor, who, through the whole course of his life conversed in a familiar manner with his friends and courtiers, and never affected those extraordinary airs of divinity assumed by Alexander and Demetrius: the historian, a contemporary writer, noted for candor and veracity, and withal, the greatest and most penetrating genius perhaps of all antiquity; and so free from any tendency to credulity, that he even lies under the contrary imputation of atheism and profaneness: the persons, from whose authority he related the miracle, of established character for judgment and veracity, as we may well presume; eyewitnesses of the fact, and confirming their testimony, after the Flavian family was despoiled of the empire, and could no longer give any reward as the price of a lie. *Utrumque, qui interfuere, nunc quoque memorant, postquam nullum mendacio pretium.* To

* Hist. lib. v. cap. 8. Suetonius gives nearly the same account in vita VESP.

which, if we add the public nature of the facts, as related, it will appear that no evidence can well be supposed stronger for so gross and so palpable a falsehood.

There is also a memorable story related by Cardinal De Retz, which may well deserve our consideration. When that intriguing politician fled into Spain to avoid the persecution of his enemies, he passed through Saragossa, the capital of Arragon, where he was shown, in the cathedral, a man who had served seven years as a door-keeper, and was well known to everybody in town that had ever paid his devotions at that church. He had been seen for so long a time wanting a leg, but recovered that limb by the rubbing of holy oil upon the stump; and the Cardinal assures us that he saw him with two legs. This miracle was vouched by all the canons of the church; and the whole company in town were appealed to for a confirmation of the fact; whom the Cardinal found, by their zealous devotion, to be thorough believers of the miracle. Here the relater was also contemporary to the supposed prodigy, of an incredulous and libertine character, as well as of great genius; the miracle of so *singular* a nature as could scarcely admit of a counterfeit, and the witnesses very numerous, and all of them, in a manner, spectators of the fact to which they gave their testimony. And what adds mightily to the force of the evidence, and may double our surprise on this occasion, is, that the Cardinal himself, who relates the story, seems not to give any credit to it, and consequently cannot be suspected of any concurrence in the holy fraud. He considered justly, that it was not requisite, in order to reject a fact of this nature, to be able accurately to disprove the testimony, and to trace its falsehood through all the circumstances of knavery and

credulity which produced it. He knew that, as this was commonly altogether impossible at any small distance of time and place, so was it extremely difficult, even where one was immediately present, by reason of the bigotry, ignorance, cunning, and roguery of a great part of mankind. He therefore concluded, like a just reasoner, that such an evidence carried falsehood upon the very face of it, and that a miracle, supported by any human testimony, was more properly a subject of derision than of argument.

There surely never was a greater number of miracles ascribed to one person than those which were lately said to have been wrought in France upon the tomb of Abbé Paris, the famous Jansenist, with whose sanctity the people were so long deluded. The curing of the sick, giving hearing to the deaf, and sight to the blind, were everywhere talked of as the usual effects of that holy sepulchre. But what is more extraordinary, many of the miracles were immediately proved upon the spot, before judges of unquestioned integrity, attested by witnesses of credit and distinction, in a learned age, and on the most eminent theatre that is now in the world. Nor is this all: a relation of them was published and dispersed everywhere; nor were the *Jesuits*, though a learned body, supported by the civil magistrate, and determined enemies to those opinions in whose favor the miracles were said to have been wrought, ever able distinctly to refute them.* Where shall we find such a

* This book was writ by Mons. Montgeron, counsellor or judge of the parliament of Paris, a man of figure and character, who was also a martyr to the cause, and is now said to be somewhere in a dungeon on account of his book.

There is another book in three volumes (called *Recueil des Miracles de l'Abbé Paris*) giving an account of many of these miracles, and accompanied with prefatory discourses, which are very well written. There runs, however,

number of circumstances agreeing to the corroboration of one fact? And what have we to oppose to such a

through the whole of these a ridiculous comparison between the miracles of our Saviour and those of the Abbé; wherein it is asserted, that the evidence for the latter is equal to that for the former: as if the testimony of men could ever be put in the balance with that of God himself, who conducted the pen of the inspired writers. If these writers indeed, were to be considered merely as human testimony, the French author is very moderate in his comparison; since he might, with some appearance of reason, pretend that the Jansenist miracles much surpass the other in evidence and authority. The following circumstances are drawn from authentic papers, inserted in the above-mentioned book.

Many of the miracles of Abbé Paris were proved immediately by witnesses before the officiality, or bishop's court, at Paris, under the eye of Cardinal Noailles, whose character for integrity and capacity was never contested even by his enemies.

His successor in the archbishopric was an enemy to the Jansenists, and for that reason promoted to the See by the Court. Yet twenty-two rectors or *curés* of Paris, with infinite earnestness, press him to examine those miracles, which they assert to be known to the whole world, and indisputably certain: but he wisely forbore.

The Molinist party had tried to discredit these miracles in one instance, that of Mademoiselle la Franc. But, besides that their proceedings were in many respects the most irregular in the world, particularly in citing only a few of the Jansenist witnesses, whom they tampered with: besides this, I say, they soon found themselves overwhelmed by a cloud of new witnesses, one hundred and twenty in number, most of them persons of credit and substance in Paris, who gave oath for the miracle. This was accompanied with a solemn and earnest appeal to the parliament. But the parliament were forbidden, by authority, to meddle in the affair. It was at last observed, that where men are heated by zeal and enthusiasm, there is no degree of human testimony so strong as may not be procured for the greatest absurdity: and those who will be so silly as to examine the affair by that medium, and seek particular flaws in the testimony, are almost sure to be confounded. It must be a miserable imposture, indeed, that does not prevail in that contest.

All who have been in France about that time have heard of the reputation of Mons. Herault, the *Lieutenant de Police*, whose vigilance, penetration, activity, and extensive intelligence, have been much talked of. This magistrate, who by the nature of his office is almost absolute, was invested with full powers, on purpose to suppress or discredit these miracles, and he frequently seized immediately, and examined the witnesses and subjects of them; but never could reach any thing satisfactory against them.

In the case of Mademoiselle Thibaut, he sent the famous De Sylva to ex-

cloud of witnesses, but the absolute impossibility or miraculous nature of the events which they relate? And

amine her, whose evidence is very curious. The physician declares that it was impossible she could have been so ill as was proved by witnesses; because it was impossible she could, in so short a time, have recovered so perfectly as he found her. He reasoned, like a man of sense, from natural causes; but the opposite party told him, that the whole was a miracle, and that his evidence was the very best proof of it.

The Molinists were in a sad dilemma. They durst not assert the absolute insufficiency of human evidence to prove a miracle. They were obliged to say, that these miracles were wrought by witchcraft and the devil. But they were told, that this was the resource of the Jews of old.

No Jansenist was ever embarrassed to account for the cessation of the miracles, when the church-yard was shut up by the king's edict. It was the touch of the tomb which produced these extraordinary effects: and when no one could approach the tomb, no effects could be expected. God, indeed, could have thrown down the walls in a moment; but he is master of his own graces and works, and it belongs not to us to account for them. He did not throw down the walls of every city like those of Jericho, on the sounding of the rams' horns, nor break up the prison of every apostle, like that of St. Paul.

No less a man than the Duc de Chatillon, a duke and peer of France, of the highest rank and family, gives evidence of a miraculous cure, performed upon a servant of his, who lived several years in his house with a visible and palpable infirmity.

I shall conclude with observing, that no clergy are more celebrated for strictness of life and manners than the secular clergy of France, particularly the rectors or curés of Paris, who bear testimony to these impostures.

The learning, genius, and probity of the gentlemen, and the austerity of the nuns of Port Royal, have been much celebrated all over Europe. Yet they all give evidence for a miracle wrought on the niece of the famous Pascal, whose sanctity of life, as well as extraordinary capacity, is well known. The famous Racine gives an account of this miracle in his famous history of Port Royal, and fortifies it with all the proofs, which a multitude of nuns, priests, physicians, and men of the world, all of them of undoubted credit, could bestow upon it. Several men of letters, particularly the bishop of Tournay, thought this miracle so certain, as to employ it in the refutation of atheists and freethinkers. The queen-regent of France, who was extremely prejudiced against the Port Royal, sent her own physician to examine the miracle, who returned an absolute convert. In short, the supernatural cure was so incontestable, that it saved, for a time, that famous monastery from the ruin with which it was threatened by the Jesuits. Had it been a cheat, it had certainly been detected by such sagacious and powerful antagonists, and must have

this, surely, in the eyes of all reasonable people, will alone be regarded as a sufficient refutation.

Is the consequence just, because some human testimony has the utmost force and authority in some cases, when it relates the battles of Philippi or Pharsalia for instance, that therefore all kinds of testimony must, in all cases, have equal force and authority? Suppose that the CÆSAREAN or POMPEIAN factions had, each of them, claimed the victory in these battles, and that the historians of each party had uniformly ascribed the advantage to their own side, how could mankind, at this distance, have been able to determine between them? The contrariety is equally strong between the miracles related by Herodotus or Plutarch, and those delivered by Mariana, Bede, or any monkish historian.

The wise lend a very academic faith to every report which favors the passion of the reporter, whether it magnifies his country, his family, or himself, or in any other way strikes in with his natural inclinations and propensities. But what greater temptation than to appear a missionary, a prophet, an ambassador from heaven? Who would not encounter many dangers and difficulties in order to attain so sublime a character? Or if, by the help of vanity and a heated imagination, a man has first made a convert of himself, and entered seriously into the delusion, who ever scruples to make

hastened the ruin of the contrivers. Our divines, who can build up a formidable castle upon such despicable materials; what a prodigious fabric could they have reared from these and many other circumstances which I have not mentioned! How often would the great names of Pascal, Racine, Arnaud, Nicole, have resounded in our ears? But if they be wise, they had better adopt the miracle, as being more worth a thousand times than all the rest of their collection. Besides, it may serve very much to their purpose. For that miracle was really performed by the touch of an authentic holy prickle of the holy thorn, which composed the holy crown, which, etc.—*This note first occurs in L, and the conclusion regarding the Port Royal miracle, in N.*

use of pious frauds in support of so holy and meritorious a cause ?

The smallest spark may here kindle into the greatest flame, because the materials are always prepared for it. The *avidum genus auricularum*,* the gazing populace, receive greedily, without examination, whatever soothes superstition and promotes wonder.

How many stories of this nature have, in all ages, been detected and exploded in their infancy ? How many more have been celebrated for a time, and have afterwards sunk into neglect and oblivion ? Where such reports, therefore, fly about, the solution of the phenomenon is obvious ; and we judge in conformity to regular experience and observation, when we account for it by the known and natural principles of credulity and delusion. And shall we, rather than have recourse to so natural a solution, allow of a miraculous violation of the most established laws of nature ?

I need not mention the difficulty of detecting a falsehood in any private or even public history, at the place where it is said to happen ; much more when the scene is removed to ever so small a distance. Even a court of judicature, with all the authority, accuracy, and judgment, which they can employ, find themselves often at a loss to distinguish between truth and falsehood in the most recent actions. But the matter never comes to any issue, if trusted to the common method of altercation and debate, and flying rumors, especially when men's passions have taken part on either side.

In the infancy of new religions, the wise and learned

* LUCRET.

commonly esteem the matter too inconsiderable to deserve their attention or regard. And when afterwards they would willingly detect the cheat, in order to undeceive the deluded multitude, the season is now past, and the records and witnesses, which might clear up the matter, have perished beyond recovery.

No means of detection remain but those which must be drawn from the very testimony itself of the reporters: and these, though always sufficient with the judicious and knowing, are commonly too fine to fall under the comprehension of the vulgar.

Upon the whole, then, it appears, that no testimony for any kind of miracle has ever amounted to a probability, much less to a proof; and that, even supposing it amounted to a proof, it would be opposed by another proof, derived from the very nature of the fact which it would endeavor to establish. It is experience only which gives authority to human testimony; and it is the same experience which assures us of the laws of nature. When, therefore, these two kinds of experience are contrary, we have nothing to do but to subtract the one from the other, and embrace an opinion either on one side or the other, with that assurance which arises from the remainder. But according to the principle here explained, this subtraction with regard to all popular religions amounts to an entire annihilation; and therefore we may establish it as a maxim, that no human testimony can have such force as to prove a miracle, and make it a just foundation for any such system of religion.

I beg the limitations here made may be remarked, when I say, that a miracle can never be proved so as to be the foundation of a system of religion. For I

own, that otherwise there may possibly be miracles, or violations of the usual course of nature, of such a kind as to admit of proof from human testimony; though perhaps it will be impossible to find any such in all the records of history. Thus, suppose all authors, in all languages, agree, that, from the 1st of January, 1600, there was a total darkness over the whole earth for eight days: suppose that the tradition of this extraordinary event is still strong and lively among the people: that all travellers who return from foreign countries bring us accounts of the same tradition, without the least variation or contradiction: it is evident that our present philosophers, instead of doubting the fact, ought to receive it as certain, and ought to search for the causes whence it might be derived. The decay, corruption, and dissolution of nature, is an event rendered probable by so many analogies, that any phenomenon, which seems to have a tendency towards that catastrophe, comes within the reach of human testimony, if that testimony be very extensive and uniform.

But suppose that all the historians who treat of England should agree, that on the first of January, 1600, Queen Elizabeth died; that both before and after her death, she was seen by her physicians and the whole court, as is usual with persons of her rank; that her successor was acknowledged and proclaimed by the Parliament; and that, after being interred for a month, she again appeared, resumed the throne, and governed England for three years; I must confess that I should be surprised at the concurrence of so many odd circumstances, but should not have the least inclination to believe so miraculous an event. I should not doubt of her pretended death, and of those other public circumstances that followed it: I should only assert it to have been

pretended, and that it neither was, nor possibly could be, real. You would in vain object to me the difficulty, and almost impossibility of deceiving the world in an affair of such consequence; the wisdom and solid judgment of that renowned Queen; with the little or no advantage which she could reap from so poor an artifice: all this might astonish me; but I would still reply, that the knavery and folly of men are such common phenomena, that I should rather believe the most extraordinary events to arise from their concurrence, than admit of so signal a violation of the laws of nature.

But should this miracle be ascribed to any new system of religion; men, in all ages, have been so much imposed on by ridiculous stories of that kind, that this very circumstance would be a full proof of a cheat, and sufficient, with all men of sense, not only to make them reject the fact, but even reject it without further examination. Though the being to whom the miracle is ascribed, be in this case Almighty, it does not, upon that account, become a whit more probable; since it is impossible for us to know the attributes or actions of such a Being, otherwise than from the experience which we have of his productions in the usual course of nature. This still reduces us to past observation, and obliges us to compare the instances of the violation of truth in the testimony of men, with those of the violation of the laws of nature by miracles, in order to judge which of them is most likely and probable. As the violations of truth are more common in the testimony concerning religious miracles than in that concerning any other matter of fact; this must diminish very much the authority of the former testimony, and make us form a general resolution never to lend any attention to it, with whatever specious pretence it may be covered.

Lord Bacon seems to have embraced the same principles of reasoning. "We ought," says he, "to make a collection or particular history of all monsters and prodigious births or productions; and, in a word, of every thing new, rare, and extraordinary in nature. But this must be done with the most severe scrutiny, lest we depart from truth. Above all, every relation must be considered as suspicious which depends in any degree upon religion, as the prodigies of Livy: and no less so every thing that is to be found in the writers on natural magic or alchemy, or such authors who seem all of them to have an unconquerable appetite for falsehood and fable."*

I am the better pleased with the method of reasoning here delivered, as I think it may serve to confound those dangerous friends, or disguised enemies to the *Christian religion*, who have undertaken to defend it by the principles of human reason. Our most holy religion is founded on *Faith*, not on reason; and it is a sure method of exposing it to put it to such a trial as it is by no means fitted to endure. To make this more evident, let us examine those miracles related in Scripture; and, not to lose ourselves in too wide a field, let us confine ourselves to such as we find in the *Pentateuch*, which we shall examine, according to the principles of these pretended Christians, not as the word or testimony of God himself, but as the production of a mere human writer and historian. Here, then, we are first to consider a book, presented to us by a barbarous and ignorant people, written in an age when they were still more barbarous, and, in all probability, long after the facts which it relates, corroborated by no concurring testimony, and

* Nov. Org. lib. ii. aph. 29.

resembling those fabulous accounts which every nation gives of its origin. Upon reading this book, we find it full of prodigies and miracles. It gives an account of a state of the world and of human nature entirely different from the present: of our fall from that state: of the age of man, extended to near a thousand years: of the destruction of the world by a deluge: of the arbitrary choice of one people as the favorites of heaven; and that people the countrymen of the author: of their deliverance from bondage by prodigies the most astonishing imaginable: I desire any one to lay his hand upon his heart, and, after a serious consideration, declare whether he thinks that the falsehood of such a book, supported by such a testimony, would be more extraordinary and miraculous than all the miracles it relates; which is, however, necessary to make it be received, according to the measures of probability above established.

What we have said of miracles, may be applied without any variation to prophecies; and, indeed, all prophecies are real miracles, and as such, only can be admitted as proofs of any revelation. If it did not exceed the capacity of human nature to foretell future events, it would be absurd to employ any prophecy as an argument for a divine mission or authority from heaven. So that, upon the whole, we may conclude, that the *Christian Religion* not only was at first attended with miracles, but even at this day cannot be believed by any reasonable person without one. Mere reason is insufficient to convince us of its veracity: and whoever is moved by *Faith* to assent to it, is conscious of a continued miracle in his own person, which subverts all the principles of his understanding, and gives him a determination to believe what is most contrary to custom and experience.

SECTION XI.

OF A PARTICULAR PROVIDENCE AND OF A FUTURE STATE.

I WAS lately engaged in conversation with a friend who loves sceptical paradoxes ; where, though he advanced many principles, of which I can by no means approve, yet, as they seem to be curious, and to bear some relation to the chain of reasoning carried on throughout this inquiry, I shall here copy them from my memory as accurately as I can, in order to submit them to the judgment of the reader.

Our conversation began with my admiring the singular good fortune of philosophy, which, as it requires entire liberty above all other privileges, and chiefly flourishes from the free opposition of sentiments and argumentation, received its first birth in an age and country of freedom and toleration, and was never cramped, even in its most extravagant principles, by any creeds, confessions, or penal statutes. For, except the banishment of Protagoras, and the death of Socrates, which last event proceeded partly from other motives, there are scarcely any instances to be met with, in ancient history, of this bigoted jealousy, with which the present age is so much infested. Epicurus lived at Athens to an advanced age, in peace and tranquillity :

Epicureans* were even admitted to receive the sacerdotal character, and to officiate at the altar, in the most sacred rites of the established religion: and the public encouragement † of pensions and salaries was afforded equally, by the wisest of all the Roman emperors, ‡ to the professors of every sect of philosophy. How requisite such kind of treatment was to philosophy, in her early youth, will easily be conceived, if we reflect that, even at present, when she may be supposed more hardy and robust, she bears with much difficulty the inclemency of the seasons, and those harsh winds of calumny and persecution which blow upon her.

You admire, says my friend, as the singular good fortune of philosophy, what seems to result from the natural course of things, and to be unavoidable in every age and nation. This pertinacious bigotry, of which you complain as so fatal to philosophy, is really her offspring, who, after allying with superstition, separates himself entirely from the interest of his parent, and becomes her most inveterate enemy and persecutor. Speculative dogmas of religion, the present occasions of such furious dispute, could not possibly be conceived or admitted in the early ages of the world; when mankind, being wholly illiterate, formed an idea of religion more suitable to their weak apprehensions, and composed their secret tenets of such tales chiefly as were the objects of traditional belief, more than of argument or disputation. After the first alarm, therefore, was over, which arose from the new paradoxes and principles of the philosophers; these teachers seem ever after, during the ages of antiquity, to have lived in great harmony with the established superstition, and to have made

* Luciani *σμετ. ἡ, λαπίθαι.*† Luciani *είροήγοι.*

‡ Id. et. Dio.

a fair partition of mankind between them; the former claiming all the learned and wise, the latter possessing all the vulgar and illiterate.

It seems then, said I, that you leave politics entirely out of the question, and never suppose, that a wise magistrate can justly be jealous of certain tenets of philosophy, such as those of Epicurus, which, denying a divine existence, and consequently a providence and a future state, seem to loosen, in a great measure, the ties of morality, and may be supposed, for that reason, pernicious to the peace of civil society.

I know, replied he, that in fact these persecutions never, in any age, proceed from calm reason, or from experience of the pernicious consequences of philosophy; but arose entirely from passion and prejudice. But what if I should advance further, and assert, that, if Epicurus had been accused before the people, by any of the *sycophants*, or informers of those days, he could easily have defended his cause, and proved his principles of philosophy to be as salutary as those of his adversaries, who endeavored, with such zeal, to expose him to the public hatred and jealousy.

I wish, said I, you would try your eloquence upon so extraordinary a topic, and make a speech for Epicurus, which might satisfy, not the mob of Athens, if you will allow that ancient and polite city to have contained any mob, but the more philosophical part of his audience, such as might be supposed capable of comprehending his arguments.

The matter would not be difficult, upon such conditions, replied he: and if you please, I shall suppose myself Epicurus for a moment, and make you stand for the Athenian people, and shall deliver you such an harangue as will fill all the urn with white beans, and

leave not a black one to gratify the malice of my adversaries.

Very well: pray proceed upon these suppositions.

I come hither, O ye Athenians! to justify, in your assembly, what I maintained in my school, and I find myself impeached by furious antagonists, instead of reasoning with calm and dispassionate inquirers. Your deliberations, which of right should be directed to questions of public good, and the interest of the commonwealth, are diverted to the disquisitions of speculative philosophy; and these magnificent, but perhaps fruitless inquiries, take place of your more familiar but more useful occupations. But so far as in me lies, I will prevent this abuse. We shall not here dispute concerning the origin and government of worlds. We shall only inquire how far such questions concern the public interest. And if I can persuade you, that they are entirely indifferent to the peace of society and security of government, I hope that you will presently send us back to our schools, there to examine at leisure the question, the most sublime, but, at the same time, the most speculative of all philosophy.

The religious philosophers, not satisfied with the tradition of your forefathers, and doctrine of your priests, (in which I willingly acquiesce,) indulge a rash curiosity, in trying how far they can establish religion upon the principles of reason; and they thereby excite, instead of satisfying, the doubts which naturally arise from a diligent and scrupulous inquiry. They paint, in the most magnificent colors, the order, beauty, and wise arrangement of the universe; and then ask, if such a glorious display of intelligence could proceed from the fortuitous concourse of atoms, or if chance could produce what the greatest genius can never sufficiently admire. I

shall not examine the justness of this argument. I shall allow it to be as solid as my antagonists and accusers can desire. It is sufficient if I can prove, from this very reasoning, that the question is entirely speculative, and that, when in my philosophical disquisitions, I deny a providence and a future state, I undermine not the foundations of society, but advance principles, which they themselves, upon their own topics, if they argue consistently, must allow to be solid and satisfactory.

You, then, who are my accusers, have acknowledged, that the chief or sole argument for a divine existence, (which I never questioned,) is derived from the order of nature: where there appear such marks of intelligence and design, that you think it extravagant to assign for its cause, either chance, or the blind and unguided force of matter. You allow that this is an argument drawn from effects to causes. From the order of the work, you infer that there must have been project and forethought in the workman. If you cannot make out this point, you allow that your conclusion fails; and you pretend not to establish the conclusion in a greater latitude than the phenomena of nature will justify. These are your concessions. I desire you to mark the consequences.

When we infer any particular cause from an effect, we must proportion the one to the other, and can never be allowed to ascribe to the cause any qualities, but what are exactly sufficient to produce the effect. A body of ten ounces raised in any scale may serve as a proof, that the counterbalancing weight exceeds ten ounces; but can never afford a reason that it exceeds a hundred. If the cause, assigned for any effect, be not sufficient to produce it, we must either reject that cause, or add to it such qualities as will give it a just proportion to the

effect. But if we ascribe to it further qualities, or affirm it capable of producing other effects, we can only indulge the license of conjecture, and arbitrarily suppose the existence of qualities and energies without reason or authority.

The same rule holds, whether the cause assigned be brute unconscious matter, or a rational intelligent being. If the cause be known only by the effect, we never ought to ascribe to it any qualities beyond what are precisely requisite to produce the effect: nor can we, by any rules of just reasoning, return back from the cause, and infer other effects from it, beyond those by which alone it is known to us. No one, merely from the sight of one of Zeuxis's pictures, could know that he was also a statuary or architect, and was an artist no less skilful in stone and marble than in colors. The talents and taste displayed in the particular work before us; these we may safely conclude the workman to be possessed of. The cause must be proportioned to the effect; and if we exactly and precisely proportion it, we shall never find in it any qualities that point further, or afford an inference concerning any other design or performance. Such qualities must be somewhat beyond what is merely requisite for producing the effect which we examine.

Allowing, therefore, the gods to be the authors of the existence or order of the universe, it follows that they possess that precise degree of power, intelligence, and benevolence, which appears in their workmanship; but nothing further can ever be proved, except we call in the assistance of exaggeration and flattery to supply the defects of argument and reasoning. So far as the traces of any attributes at present appear, so far may we conclude these attributes to exist. The supposition of

further attributes is mere hypothesis ; much more the supposition that, in distant regions of space or periods of time, there has been, or will be, a more magnificent display of these attributes, and a scheme of administration more suitable to such imaginary virtues. We can never be allowed to mount up from the universe, the effect, to Jupiter, the cause : and then descend downwards, to infer any new effect from that cause, as if the present effects alone were not entirely worthy of the glorious attributes which we ascribe to that deity. The knowledge of the cause being derived solely from the effect, they must be exactly adjusted to each other ; and the one can never refer to any thing further, or be the foundation of any new inference and conclusion.

You find certain phenomena in nature. You seek a cause or author. You imagine that you have found him. You afterwards become so enamored of this offspring of your brain, that you imagine it impossible but he must produce something greater and more perfect than the present scene of things, which is so full of ill and disorder. You forget that this superlative intelligence and benevolence are entirely imaginary, or, at least, without any foundation in reason, and that you have no ground to ascribe to him any qualities but what you see he has actually exerted and displayed in his productions. Let your gods, therefore, O philosophers ! be suited to the present appearances of nature : and presume not to alter these appearances by arbitrary suppositions, in order to suit them to the attributes which you so fondly ascribe to your deities.

When priests and poets, supported by your authority, O Athenians ! talk of a golden or silver age, which preceded the present state of vice and misery, I hear them with attention and with reverence. But when

philosophers, who pretend to neglect authority, and to cultivate reason, hold the same discourse, I pay them not, I own, the same obsequious submission and pious deference. I ask, who carried them into the celestial regions, who admitted them into the councils of gods, who opened to them the book of fate, that they thus rashly affirm that their deities have executed, or will execute, any purpose beyond what has actually appeared? If they tell me that they have mounted on the steps, or by the gradual ascent of reason, and by drawing inferences from effects to causes, I still insist that they have aided the ascent of reason by the wings of imagination; otherwise they could not thus change their manner of inference, and argue from causes to effects; presuming that a more perfect production than the present world would be more suitable to such perfect beings as the gods, and forgetting that they have no reason to ascribe to these celestial beings any perfection or any attribute but what can be found in the present world.

Hence all the fruitless industry to account for the ill appearances of nature, and save the honor of the gods; while we must acknowledge the reality of that evil and disorder with which the world so much abounds. The obstinate and intractable qualities of matter, we are told, or the observance of general laws, or some such reason, is the sole cause which controlled the power and benevolence of Jupiter, and obliged him to create mankind and every sensible creature so imperfect and so unhappy. These attributes, then, are, it seems, beforehand taken for granted in their greatest latitude. And upon that supposition, I own, that such conjectures may, perhaps, be admitted as plausible solutions of the ill phenomena. But still I ask, Why take these attributes

for granted, or why ascribe to the cause any qualities but what actually appear in the effect? Why torture your brain to justify the course of nature upon suppositions, which, for aught you know, may be entirely imaginary, and of which there are to be found no traces in the course of nature?

The religious hypothesis, therefore, must be considered only as a particular method of accounting for the visible phenomena of the universe: but no just reasoner will ever presume to infer from it any single fact, and alter or add to the phenomena in any single particular. If you think the appearance of things prove such causes, it is allowable for you to draw an inference concerning the existence of these causes. In such complicated and sublime subjects, every one should be indulged in the liberty of conjecture and argument. But here you ought to rest. If you come backward, and, arguing from your inferred causes, conclude that any other fact has existed, or will exist, in the course of nature, which may serve as a fuller display of particular attributes, I must admonish you that you have departed from the method of reasoning attached to the present subject, and have certainly added something to the attributes of the cause, beyond what appears in the effect; otherwise you could never, with tolerable sense or propriety, add any thing to the effect, in order to render it more worthy of the cause.

Where, then, is the odiousness of that doctrine which I teach in my school, or rather which I examine in my gardens? Or what do you find in this whole question, wherein the security of good morals, or the peace and order of society, is in the least concerned?

I deny a providence, you say, and supreme governor of the world, who guides the course of events, and pun-

ishes the vicious with infamy and disappointment, and rewards the virtuous with honor and success in all their undertakings. But surely I deny not the course itself of events, which lies open to every one's inquiry and examination. I acknowledge that, in the present order of things, virtue is attended with more peace of mind than vice, and meets with a more favorable reception from the world. I am sensible that, according to the past experience of mankind, friendship is the chief joy of human life, and moderation the only source of tranquillity and happiness. I never balance between the virtuous and the vicious course of life; but am sensible that, to a well-disposed mind, every advantage is on the side of the former. And what can you say more, allowing all your suppositions and reasonings? You tell me, indeed, that this disposition of things proceeds from intelligence and design. But whatever it proceeds from, the disposition itself, on which depends our happiness or misery, and consequently our conduct and deportment in life, is still the same. It is still open for me, as well as you, to regulate my behavior, by my experience of past events. And if you affirm that, while a divine providence is allowed, and a supreme distributive justice in the universe, I ought to expect some more particular reward of the good, and punishment of the bad, beyond the ordinary course of events, I here find the same fallacy which I have before endeavored to detect. You persist in imagining, that if we grant that divine existence for which you so earnestly contend, you may safely infer consequences from it, and add something to the experienced order of nature, by arguing from the attributes which you ascribe to your gods. You seem not to remember that all your reasonings on this subject can only be drawn from effects to causes; and that

every argument, deduced from causes to effects, must of necessity be a gross sophism, since it is impossible for you to know any thing of the cause, but what you have antecedently not inferred, but discovered to the full in the effect.

But what must a philosopher think of those vain reasoners who, instead of regarding the present scene of things as the sole object of their contemplation, so far reverse the whole course of nature, as to render this life merely a passage to something further; a porch, which leads to a greater, and vastly different building; a prologue, which serves only to introduce the piece, and give it more grace and propriety? Whence, do you think, can such philosophers derive their idea of the gods? From their own conceit and imagination surely. For if they derive it from the present phenomena, it would never point to any thing further, but must be exactly adjusted to them. That the divinity may *possibly* be endowed with attributes which we have never seen exerted; may be governed by principles of action which we cannot discover to be satisfied; all this will freely be allowed. But still this is mere *possibility* and hypothesis. We never can have reason to *infer* any attributes or any principles of action in him, but so far as we know them to have been exerted and satisfied.

Are there any marks of a distributive justice in the world? If you answer in the affirmative, I conclude that, since justice here exerts itself, it is satisfied. If you reply in the negative, I conclude that you have then no reason to ascribe justice, in our sense of it, to the gods. If you hold a medium between affirmation and negation, by saying that the justice of the gods at present exerts itself in part, but not in its full extent, I answer, that

you have no reason to give it any particular extent, but only so far as you see it, *at present*, exert itself.

Thus I bring the dispute, O Athenians! to a short issue with my antagonists. The course of nature lies open to my contemplation as well as to theirs. The experienced train of events is the great standard by which we all regulate our conduct. Nothing else can be appealed to in the field, or in the senate. Nothing else ought ever to be heard of in the school, or in the closet. In vain would our limited understanding break through those boundaries which are too narrow for our fond imagination. While we argue from the course of nature, and infer a particular intelligent cause, which first bestowed, and still preserves order in the universe, we embrace a principle which is both uncertain and useless. It is uncertain, because the subject lies entirely beyond the reach of human experience. It is useless, because our knowledge of this cause being derived entirely from the course of nature, we can never, according to the rules of just reasoning, return back from the cause with any new inference, or, making additions to the common and experienced course of nature, establish any principles of conduct and behavior.

I observe (said I, finding he had finished his harangue) that you neglect not the artifice of the demagogues of old; and as you were pleased to make me stand for the people, you insinuate yourself into my favor by embracing those principles to which, you know, I have always expressed a particular attachment. But allowing you to make experience (as indeed I think you ought) the only standard of our judgment concerning this, and all other questions of fact, I doubt not but, from the very same experience to which you appeal, it may be possible to refute this reasoning, which you have put into the

mouth of Epicurus. If you saw, for instance, a half finished building, surrounded with heaps of brick, and stone, and mortar, and all the instruments of masonry, could you not *infer* from the effect that it was a work of design and contrivance? And could you not return again, from this inferred cause, to infer new additions to the effect, and conclude, that the building would soon be finished, and receive all the further improvements which art could bestow upon it? If you saw upon the seashore the print of one human foot, you would conclude that a man had passed that way, and that he had also left the traces of the other foot, though effaced by the rolling of the sands or inundation of the waters. Why then do you refuse to admit the same method of reasoning with regard to the order of nature? Consider the world and the present life only as an imperfect building, from which you can infer a superior intelligence; and arguing from that superior intelligence, which can leave nothing imperfect, why may you not infer a more finished scheme or plan, which will receive its completion in some distant point of space or time? Are not these methods of reasoning exactly similar? And under what pretence can you embrace the one while you reject the other?

The infinite difference of the subjects, replied he, is a sufficient foundation for this difference in my conclusions. In works of *human* art and contrivance, it is allowable to advance from the effect to the cause, and returning back from the cause, to form new inferences concerning the effect, and examine the alterations which it has probably undergone, or may still undergo. But what is the foundation of this method of reasoning? Plainly this: that man is a being whom we know by experience, whose motives and designs we are acquainted with, and whose

projects and inclinations have a certain connection and coherence, according to the laws which nature has established for the government of such a creature. When, therefore, we find that any work has proceeded from the skill and industry of man, as we are otherwise acquainted with the nature of the animal, we can draw a hundred inferences concerning what may be expected from him; and these inferences will all be founded in experience and observation. But did we know man only from the single work or production which we examine, it were impossible for us to argue in this manner; because our knowledge of all the qualities which we ascribe to him, being in that case derived from the production, it is impossible they could point to any thing further, or be the foundation of any new inference. The print of a foot in the sand can only prove, when considered alone, that there was some figure adapted to it, by which it was produced: but the print of a human foot proves likewise, from our other experience, that there was probably another foot, which also left its impression, though effaced by time or other accidents. Here we mount from the effect to the cause; and descending again from the cause, infer alterations in the effect; but this is not a continuation of the same simple chain of reasoning. We comprehend in this case a hundred other experiences and observations, concerning the *usual* figure and members of that species of animal, without which this method of argument must be considered as fallacious and sophistical.

The case is not the same with our reasonings from the works of nature. The Deity is known to us only by his productions, and is a single being in the universe, not comprehended under any species or genus, from whose experienced attributes or qualities we can,

by analogy, infer any attribute or quality in him. As the universe shows wisdom and goodness, we infer wisdom and goodness. As it shows a particular degree of these perfections, we infer a particular degree of them, precisely adapted to the effect which we examine. But further attributes, or further degrees of the same attributes, we can never be authorized to infer or suppose, by any rules of just reasoning. Now, without some such license of supposition, it is impossible for us to argue from the cause, or infer any alteration in the effect, beyond what has immediately fallen under our observation. Greater good produced by this Being must still prove a greater degree of goodness. A more impartial distribution of rewards and punishments must proceed from a greater regard to justice and equity. Every supposed addition to the works of nature makes an addition to the attributes of the Author of nature; and, consequently, being entirely unsupported by any reason or argument, can never be admitted but as mere conjecture and hypothesis.*

* In general, it may, I think, be established as a maxim, that where any cause is known only by its particular effects, it must be impossible to infer any new effects from that cause; since the qualities which are requisite to produce these new effects along with the former, must either be different, or superior, or of more extensive operation, than those which simply produced the effect, whence alone the cause is supposed to be known to us. We can never, therefore, have any reason to suppose the existence of these qualities. To say, that the new effects proceed only from a continuation of the same energy, which is always known from the first effects, will not remove the difficulty. For even granting this to be the case (which can seldom be supposed), the very continuation and exertion of a like energy (for it is impossible it can be absolutely the same), I say, this exertion of a like energy, in a different period of space and time, is a very arbitrary supposition, and what there cannot possibly be any traces of in the effects, from which all our knowledge of the cause is originally derived. Let the *inferred* cause be exactly proportioned (as it should be) to the known effect; and it is impossible that it can possess any qualities from which new or different effects can be *inferred*.

The great source of our mistake on this subject, and of the unbounded license of conjecture which we indulge, is, that we tacitly consider ourselves as in the place of the Supreme Being, and conclude that he will, on every occasion, observe the same conduct which we ourselves, in his situation, would have embraced as reasonable and eligible. But, besides that the ordinary course of nature may convince us, that almost every thing is regulated by principles and maxims very different from ours; besides this, I say, it must evidently appear contrary to all rule of analogy, to reason, from the projects and intentions of men, to those of a Being so different, and so much superior. In human nature there is a certain experienced coherence of designs and inclinations; so that when, from any fact, we have discovered one intention of any man, it may often be reasonable, from experience, to infer another, and draw a long chain of conclusions concerning his past or future conduct. But this method of reasoning can never have place with regard to a being so remote and incomprehensible, who bears much less analogy to any other being in the universe than the sun to a waxen taper, and who discovers himself only by some faint traces or outlines, beyond which we have no authority to ascribe to him any attribute or perfection. What we imagine to be a superior perfection, may really be a defect. Or were it ever so much a perfection, the ascribing of it to the Supreme Being, where it appears not to have been really exerted to the full in his works, savors more of flattery and panegyric than of just reasoning and sound philosophy. All the philosophy, therefore, in the world, and all the religion, which is nothing but a species of philosophy, will never be able to carry us beyond the usual course of experience, or give us measures of con-

duct and behavior different from those which are furnished by reflections on common life. No new fact can ever be inferred from the religious hypothesis ; no event foreseen or foretold ; no reward or punishment expected or dreaded, beyond what is already known by practice and observation. So that my apology for Epicurus will still appear solid and satisfactory ; nor have the political interests of society any connection with the philosophical disputes concerning metaphysics and religion.

There is still one circumstance, replied I, which you seem to have overlooked. Though I should allow your premises, I must deny your conclusion. You conclude, that religious doctrines and reasonings *can* have no influence on life, because they *ought* to have no influence ; never considering that men reason not in the same manner you do, but draw many consequences from the belief of a Divine Existence, and suppose that the Deity will inflict punishments on vice, and bestow rewards on virtue, beyond what appear in the ordinary course of nature. Whether this reasoning of theirs be just or not, is no matter. Its influence on their life and conduct must still be the same. And those who attempt to disabuse them of such prejudices, may, for aught I know, be good reasoners, but I cannot allow them to be good citizens and politicians ; since they free men from one restraint upon their passions, and make the infringement of the laws of society, in one respect, more easy and secure.

After all, I may perhaps agree to your general conclusion in favor of liberty, though upon different premises from those on which you endeavor to found it. I think that the state ought to tolerate every principle of philosophy ; nor is there an instance, that any gov-

ernment has suffered in its political interests by such indulgence. There is no enthusiasm among philosophers; their doctrines are not very alluring to the people; and no restraint can be put upon their reasonings but what must be of dangerous consequence to the sciences; and even to the state, by paving the way for persecution and oppression in points where the generality of mankind are more deeply interested and concerned.

But there occurs to me, (continued I,) with regard to your main topic, a difficulty which I shall just propose to you, without insisting on it; lest it lead into reasonings of too nice and delicate a nature. In a word, I much doubt whether it be possible for a cause to be known only by its effect (as you have all along supposed), or to be of so singular and particular a nature as to have no parallel and no similarity with any other cause or object that has ever fallen under our observation. It is only when two *species* of objects are found to be constantly conjoined, that we can infer the one from the other; and were an effect presented, which was entirely singular, and could not be comprehended under any known *species*, I do not see that we could form any conjecture or inference at all concerning its cause. If experience, and observation, and analogy, be indeed the only guides which we can reasonably follow in inferences of this nature; both the effect and cause must bear a similarity and resemblance to other effects and causes which we know, and which we have found in many instances to be conjoined with each other. I leave it to your own reflection to pursue the consequences of this principle. I shall just observe, that as the antagonists of Epicurus always suppose the universe, an effect quite singular and unparallelled, to be the proof of a Deity, a cause

no less singular and unparalleled ; your reasonings upon that supposition, seem, at least, to merit our attention. There is, I own, some difficulty how we can never return from the cause to the effect, and, reasoning from our ideas of the former, infer any alteration on the latter, or any addition to it.

SECTION XII.

OF THE ACADEMICAL OR SCEPTICAL PHILOSOPHY.

PART I.

THERE is not a greater number of philosophical reasonings displayed upon any subject, than those which prove the existence of a Deity, and refute the fallacies of *Atheists* ; and yet the most religious philosophers still dispute whether any man can be so blinded as to be a speculative atheist. How shall we reconcile these contradictions? The knight-errants, who wandered about to clear the world of dragons and of giants, never entertained the least doubt with regard to the existence of these monsters.

The *Sceptic* is another enemy of religion, who naturally provokes the indignation of all divines and graver philosophers ; though it is certain that no man ever met with any such absurd creature, or conversed with a man who had no opinion or principle concerning any subject, either of action or speculation. This begets a very natural question. What is meant by a sceptic? And how far is it possible to push these philosophical principles of doubt and uncertainty?

There is a species of scepticism, *antecedent* to all study and philosophy, which is much inculcated by ~~Des Cartes~~

...des cartes

and others, as a sovereign preservative against error and precipitate judgment. It recommends an universal doubt, not only of all our former opinions and principles, but also of our very faculties; of whose veracity, say they, we must assure ourselves, by a chain of reasoning, deduced from some original principle, which cannot possibly be fallacious or deceitful. But neither is there any such original principle, which has a prerogative above others that are self-evident and convincing: or if there were, could we advance a step beyond it but by the use of those very faculties of which we are supposed to be already diffident? The Cartesian doubt, therefore, were it ever possible to be attained by any human creature (as it plainly is not), would be entirely incurable; and no reasoning could ever bring us to a state of assurance and conviction upon any subject.

It must, however, be confessed, that this species of scepticism, when more moderate, may be understood in a very reasonable sense, and is a necessary preparative to the study of philosophy, by preserving a proper impartiality in our judgments, and weaning our mind from all those prejudices which we may have imbibed from education or rash opinion. To begin with clear and self-evident principles, to advance by timorous and sure steps, to review frequently our conclusions, and examine accurately all their consequences; though by these means we shall make both a slow and a short progress in our systems; are the only methods by which we can ever hope to reach truth, and attain a proper stability and certainty in our determinations.

There is another species of scepticism, *consequent* to science and inquiry, when men are supposed to have discovered, either the absolute fallaciousness of their mental faculties, or their unfitness to reach any fixed determina-

tion in all those curious subjects of speculation, about which they are commonly employed. Even our very senses are brought into dispute, by a certain species of philosophers; and the maxims of common life are subjected to the same doubt as the most profound principles or conclusions of metaphysics and theology. As these paradoxical tenets (if they may be called tenets) are to be met with in some philosophers, and the refutation of them in several, they naturally excite our curiosity, and make us inquire into the arguments on which they may be founded.

I need not insist upon the more trite topics employed by the sceptics, in all ages, against the evidence of *sense*; such as those which are derived from the imperfection and fallaciousness of our organs, on numberless occasions; the crooked appearance of an oar in water; the various aspects of objects, according to their different distances; the double images which arise from the pressing one eye; with many other appearances of a like nature. These sceptical topics, indeed, are only sufficient to prove, that the senses alone are not implicitly to be depended on; but that we must correct their evidence by reason, and by considerations derived from the nature of the medium, the distance of the object, and the disposition of the organ, in order to render them, within their sphere, the proper *criteria* of truth and falsehood. There are other more profound arguments against the senses, which admit not of so easy a solution.

It seems evident, that men are carried by a natural instinct or prepossession to repose faith in their senses; and that, without any reasoning, or even almost before the use of reason, we always suppose an external universe, which depends not on our perception, but would exist, though we and every sensible creature

were absent or annihilated. Even the animal creation are governed by a like opinion, and preserve this belief of external objects, in all their thoughts, designs, and actions.

It seems also evident, that when men follow this blind and powerful instinct of nature, they always suppose the very images presented by the senses, to be the external objects, and never entertain any suspicion that the one are nothing but representations of the other. This very table which we see white, and which we feel hard, is believed to exist, independent of our perception, and to be something external to our mind which perceives it. Our presence bestows not being on it: our absence does not annihilate it. It preserves its existence uniform and entire, independent of the situation of intelligent beings, who perceive or contemplate it.

But this universal and primary opinion of all men is soon destroyed by the slightest philosophy, which teaches us that nothing can ever be present to the mind but an image or perception, and that the senses are only the inlets through which these images are conveyed, without being able to produce any immediate intercourse between the mind and the object. The table, which we see, seems to diminish, as we remove further from it: but the real table, which exists independent of us, suffers no alteration: it was therefore nothing but its image which was present to the mind. These are the obvious dictates of reason; and no man who reflects ever doubted, that the existences which we consider, when we say, *this house*, and *that tree*, are nothing but perceptions in the mind, and fleeting copies or representations of other existences, which remain uniform and independent.

So far, then, are we necessitated by reasoning, to contradict or depart from the primary instincts of nature, and to embrace a new system with regard to the evidence of our senses. But here philosophy finds herself extremely embarrassed, when she would justify this new system, and obviate the cavils and objections of the sceptics. She can no longer plead the infallible and irresistible instinct of nature: for that led us to a quite different system, which is acknowledged fallible and even erroneous. And to justify this pretended philosophical system by a chain of clear and convincing argument, or even any appearance of argument, exceeds the power of all human capacity.

By what argument can it be proved, that the perceptions of the mind must be caused by external objects, entirely different from them, though resembling them (if that be possible), and could not arise either from the energy of the mind itself, or from the suggestion of some invisible and unknown spirit, or from some other cause still more unknown to us? It is acknowledged, that in fact many of these perceptions arise not from any thing external, as in dreams, madness, and other diseases. And nothing can be more inexplicable than the manner in which body should so operate upon mind, as ever to convey an image of itself to a substance, supposed of so different and even contrary a nature.

It is a question of fact, whether the perceptions of the senses be produced by external objects resembling them: how shall this question be determined? By experience, surely, as all other questions of a like nature. But here experience is, and must be entirely silent. The mind has never any thing present to it but the perceptions, and cannot possibly reach any experience of their connection with objects. The supposition of such a

connection is, therefore, without any foundation in reasoning.

To have recourse to the veracity of the Supreme Being in order to prove the veracity of our senses, is surely making a very unexpected circuit. If his veracity were at all concerned in this matter, our senses would be entirely infallible ; because it is not possible that he can ever deceive. Not to mention, that if the external world be once called in question, we shall be at a loss to find arguments by which we may prove the existence of that Being, or any of his attributes.

This is a topic, therefore, in which the profounder and more philosophical sceptics will always triumph, when they endeavor to introduce an universal doubt into all subjects of human knowledge and inquiry. Do you follow the instincts and propensities of nature, may they say, in assenting to the veracity of sense? But these lead you to believe, that the very perception or sensible image is the external object. Do you disclaim this principle, in order to embrace a more rational opinion, that the perceptions are only representations of something external? You here depart from your natural propensities, and more obvious sentiments ; and yet are not able to satisfy your reason, which can never find any convincing argument from experience to prove, that the perceptions are connected with any external objects.

There is another sceptical topic of a like nature, derived from the most profound philosophy ; which might merit our attention, were it requisite to dive so deep, in order to discover arguments and reasonings, which can serve so little any serious purpose. It is universally allowed by modern inquirers, that all the sensible qualities of objects, such as hard, soft, hot, cold,

white, black, etc. are merely secondary, and exist not in the objects themselves, but are perceptions of the mind, without any external archetype or model which they represent. If this be allowed with regard to secondary qualities, it must also follow with regard to the supposed primary qualities of extension and solidity ; nor can the latter be any more entitled to that denomination than the former. The idea of extension is entirely acquired from the senses of sight and feeling ; and if all the qualities, perceived by the senses, be in the mind, not in the object, the same conclusion must reach the idea of extension, which is wholly dependent on the sensible ideas, or the ideas of secondary qualities. Nothing can save us from this conclusion, but the asserting, that the ideas of those primary qualities are attained by *Abstraction* ; an opinion which, if we examine it accurately, we shall find to be unintelligible, and even absurd. An extension, that is neither tangible nor visible, cannot possibly be conceived : and a tangible or visible extension, which is neither hard nor soft, black nor white, is equally beyond the reach of human conception. Let any man try to conceive a triangle in general, which is neither *Isosceles* nor *Scalenum*, nor has any particular length or proportion of sides ; and he will soon perceive the absurdity of all the scholastic notions with regard to abstraction and general ideas.*

* This argument is drawn from Dr. Berkeley ; and indeed most of the writings of that very ingenious author form the best lessons of scepticism which are to be found either among the ancient or modern philosophers, Bayle not excepted. He professes, however, in his title-page (and undoubtedly with great truth), to have composed his book against the sceptics as well as against the atheists and freethinkers. But that all his arguments, though otherwise intended, are, in reality, merely sceptical, appears from this, *that they admit of no answer, and produce no conviction*. Their only effect is to cause that momentary amazement and irresolution and confusion, which is the result of scepticism.

Thus the first philosophical objection to the evidence of sense, or to the opinion of external existence consists in this, that such an opinion, if rested on natural instinct, is contrary to reason, and, if referred to reason, is contrary to natural instinct, and at the same time carries no rational evidence with it, to convince an impartial inquirer. The second objection goes further, and represents this opinion as contrary to reason; at least, if it be a principle of reason, that all sensible qualities are in the mind, not in the object. Bereave matter of all its intelligible qualities, both primary and secondary, you in a manner annihilate it, and leave only a certain unknown, inexplicable *something*, as the cause of our perceptions; a notion so imperfect, that no sceptic will think it worth while to contend against it.

PART II.

It may seem a very extravagant attempt of the sceptics to destroy reason by argument and ratiocination; yet this is the grand scope of all their inquiries and disputes. They endeavor to find objections, both to our abstract reasonings, and to those which regard matter of fact and existence.

The chief objection against all *abstract* reasonings is derived from the ideas of space and time; ideas which, in common life, and to a careless view, are very clear and intelligible, but when they pass through the scrutiny of the profound sciences (and they are the chief object of these sciences), afford principles which seem full of absurdity and contradiction. No priestly *dogmas*, invented on purpose to tame and subdue the rebellious reason of mankind, ever shocked common sense more

than the doctrine of the infinite divisibility of extension, with its consequences ; as they are pompously displayed by all geometricians and metaphysicians, with a kind of triumph and exultation. A real quantity, infinitely less than any finite quantity, containing qualities infinitely less than itself, and so on *in infinitum* ; this is an edifice so bold and prodigious, that it is too weighty for any pretended demonstration to support, because it shocks the clearest and most natural principles of human reason.* But what renders the matter more extraordinary is, that these seemingly absurd opinions are supported by a chain of reasoning the clearest and most natural ; nor is it possible for us to allow the premises without admitting the consequences. Nothing can be more convincing and satisfactory than all the conclusions concerning the properties of circles and triangles ; and yet when these are once received, how can we deny, that the angle of contact between a circle and its tangent is infinitely less than any rectilinear angle ; that as you may increase the diameter of the circle *in infinitum*, this angle of contact becomes still less, even *in infinitum*, and that the angle of contact between other curves and their tangents may be infinitely less than those between any circle and its tangent, and so on, *in infinitum* ? The demonstration of these principles seem as unexceptionable as that which proves the three angles of a triangle

* Whatever disputes there may be about mathematical points, we must allow that there are physical points, that is, parts of extension, which cannot be divided or lessened, either by the eye or imagination. These images, then, which are present to the fancy or senses, are absolutely indivisible, and consequently must be allowed by mathematicians to be infinitely less than any real part of extension ; and yet nothing appears more certain to reason, than that an infinite number of them composes an infinite extension. How much more an infinite number of those infinitely small parts of extension, which are still supposed infinitely divisible ?

to be equal to two right ones, though the latter opinion be natural and easy, and the former big with contradiction and absurdity. Reason here seems to be thrown into a kind of amazement and suspense, which, without the suggestions of any sceptic, gives her a diffidence of herself, and of the ground on which she treads. She sees a full light, which illuminates certain places; but that light borders upon the most profound darkness. And between these she is so dazzled and confounded, that she scarcely can pronounce with certainty and assurance concerning any one object.

The absurdity of these bold determinations of the abstract sciences seems to become, if possible, still more palpable with regard to time than extension. An infinite number of real parts of time, passing in succession, and exhausted one after another, appears so evident a contradiction, that no man, one should think, whose judgment is not corrupted, instead of being improved by the sciences, would ever be able to admit it.

Yet still reason must remain restless and unquiet, even with regard to that scepticism to which she is driven by these seeming absurdities and contradictions. How any clear, distinct idea, can contain circumstances contradictory to itself, or to any other clear, distinct idea, is absolutely incomprehensible, and is, perhaps, as absurd as any proposition which can be formed. So that nothing can be more sceptical, or more full of doubt and hesitation, than this scepticism itself, which arises from some of the paradoxical conclusions of geometry or the science of quantity.*

* It seems to me not impossible to avoid these absurdities and contradictions, if it be admitted that there is no such thing as abstract or general ideas, properly speaking; but that all general ideas are, in reality, particular ones; attached to a general term, which recalls, upon occasion, other particular ones,

The sceptical objections to *moral* evidence, or to the reasonings concerning matter of fact, are either *popular* or *philosophical*. The popular objections are derived from the natural weakness of human understanding; the contradictory opinions which have been entertained in different ages and nations; the variations of our judgment in sickness and health, youth and old age, prosperity and adversity; the perpetual contradiction of each particular man's opinions and sentiments, with many other topics of that kind. It is needless to insist further on this head. These objections are but weak. For as, in common life, we reason every moment concerning fact and existence, and cannot possibly subsist, without continually employing this species of argument, any popular objections, derived from thence, must be insufficient to destroy that evidence. The great subverter of

that resemble, in certain circumstances, the idea present to the mind. Thus, when the term Horse is pronounced, we immediately figure to ourselves the idea of a black or a white animal, of a particular size or figure: but as that term is also usually applied to animals of other colors, figures, and sizes, these ideas, though not actually present to the imagination, are easily recalled; and our reasoning and conclusion proceed in the same way as if they were actually present. If this be admitted (as seems reasonable), it follows, that all the ideas of quantity, upon which mathematicians reason, are nothing but particular, and such as are suggested by the senses and imagination, and consequently cannot be infinitely divisible.* It is sufficient to have dropped this hint at present, without prosecuting it any further. It certainly concerns all lovers of science not to expose themselves to the ridicule and contempt of the ignorant by their conclusions; and this seems the readiest solution of these difficulties.

* In general, we may pronounce, that the ideas of *greater*, *less*, or *equal*, which are the chief objects of geometry, are far from being so exact or determinate as to be the foundation of such extraordinary inferences. Ask a mathematician what he means when he pronounces two quantities to be equal, and he must say, that the idea of *equality* is one of those which cannot be defined, and that it is sufficient to place two equal quantities before any one, in order to suggest it. Now, this is an appeal to the general appearances of objects to the imagination or senses, and consequently can never afford conclusions so directly contrary to these faculties. — EDITIONS K, L.

Pyrrhonism, or the excessive principles of scepticism, is action, and employment, and the occupations of common life. These principles may flourish and triumph in the schools, where it is indeed difficult, if not impossible, to refute them. But as soon as they leave the shade, and by the presence of the real objects which actuate our passions and sentiments are put in opposition to the more powerful principles of our nature, they vanish like smoke, and leave the most determined sceptic in the same condition as other mortals.

The sceptic, therefore, had better keep within his proper sphere, and display those *philosophical* objections which arise from more profound researches. Here he seems to have ample matter of triumph, while he justly insists, that all our evidence for any matter of fact which lies beyond the testimony of sense or memory is derived entirely from the relation of cause and effect; that we have no other idea of this relation than that of two objects, which have been frequently *conjoined* together; that we have no argument to convince us, that objects, which have, in our experience, been frequently conjoined, will likewise, in other instances, be conjoined in the same manner; and that nothing leads us to this inference but custom, or a certain instinct of our nature, which it is indeed difficult to resist, but which, like other instincts, may be fallacious and deceitful. While the sceptic insists upon these topics, he shows his force, or rather, indeed, his own and our weakness; and seems, for the time at least, to destroy all assurance and conviction. These arguments might be displayed at greater length, if any durable good or benefit to society could ever be expected to result from them.

For here is the chief and most confounding objection to *excessive* scepticism, that no durable good can ever

result from it, while it remains in its full force and vigor. We need only ask such a sceptic, *What his meaning is? And what he proposes by all these curious researches?* He is immediately at a loss, and knows not what to answer. A COPERNICAN or PTOLEMAIC, who supports each his different system of astronomy, may hope to produce a conviction which will remain constant and durable with his audience. A STOIC or EPICUREAN displays principles which may not only be durable, but which have an effect on conduct and behavior. But a PYRRHONIAN cannot expect that his philosophy will have any constant influence on the mind, or if it had, that its influence would be beneficial to society. On the contrary, he must acknowledge, if he will acknowledge any thing, that all human life must perish, were his principles universally and steadily to prevail. All discourse, all action, would immediately cease; and men remain in a total lethargy, till the necessities of nature, unsatisfied, put an end to their miserable existence. It is true, so fatal an event is very little to be dreaded. Nature is always too strong for principle. And though a PYRRHONIAN may throw himself or others into a momentary amazement and confusion by his profound reasonings, the first and most trivial event in life will put to flight all his doubts and scruples, and leave him the same, in every point of action and speculation, with the philosophers of every other sect, or with those who never concerned themselves in any philosophical researches. When he awakes from his dream, he will be the first to join in the laugh against himself, and to confess, that all his objections are mere amusement, and can have no other tendency than to show the whimsical condition of mankind, who must act, and reason, and believe; though they are not able, by the most diligent inquiry, to satisfy themselves

concerning the foundation of these operations, or to remove the objections which may be raised against them.

PART III.

There is, indeed, a more *mitigated* scepticism or *academic* philosophy, which may be both durable and useful, and which may, in part, be the result of this PYRRHONISM, or *excessive* scepticism, when its undistinguished doubts are, in some measure, corrected by common sense and reflection. The greater part of mankind are naturally apt to be affirmative and dogmatical in their opinions; and while they see objects only on one side, and have no idea of any counterpoising argument, they throw themselves precipitately into the principles to which they are inclined; nor have they any indulgence for those who entertain opposite sentiments. To hesitate or balance perplexes their understanding, checks their passion, and suspends their action. They are, therefore, impatient till they escape from a state which to them is so uneasy; and they think that they can never remove themselves far enough from it by the violence of their affirmations and obstinacy of their belief. But could such dogmatical reasoners become sensible of the strange infirmities of human understanding, even in its most perfect state, and when most accurate and cautious in its determinations; such a reflection would naturally inspire them with more modesty and reserve, and diminish their fond opinion of themselves, and their prejudice against antagonists. The illiterate may reflect on the disposition of the learned, who, amidst all the advantages of study and reflection, are commonly still diffident in their determinations: and if any of the learned be inclined, from

their natural temper, to haughtiness and obstinacy, a small tincture of PYRRHONISM might abate their pride, by showing them, that the few advantages which they may have attained over their fellows, are but inconsiderable, if compared with the universal perplexity and confusion which is inherent in human nature. In general, there is a degree of doubt, and caution, and modesty, which, in all kinds of scrutiny and decision, ought for ever to accompany a just reasoner.

Another species of *mitigated* scepticism, which may be of advantage to mankind, and which may be the natural result of the PYRRHONIAN doubts and scruples, is the limitation of our inquiries to such subjects as are best adapted to the narrow capacity of human understanding. The *imagination* of man is naturally sublime, delighted with whatever is remote and extraordinary, and running, without control, into the most distant parts of space and time, in order to avoid the objects which custom has rendered too familiar to it. A correct *judgment* observes a contrary method, and, avoiding all distant and high inquiries, confines itself to common life, and to such subjects as fall under daily practice and experience; leaving the more sublime topics to the embellishment of poets and orators, or to the arts of priests and politicians. To bring us to so salutary a determination, nothing can be more serviceable, than to be once thoroughly convinced of the force of the PYRRHONIAN doubt, and of the impossibility that any thing but the strong power of natural instinct could free us from it. Those who have a propensity to philosophy, will still continue their researches; because they reflect, that, besides the immediate pleasure attending such an occupation, philosophical decisions are nothing but the reflections of common life, methodized and corrected. But they will never be

tempted to go beyond common life, so long as they consider the imperfection of those faculties which they employ, their narrow reach, and their inaccurate operations. While we cannot give a satisfactory reason why we believe, after a thousand experiments, that a stone will fall, or fire burn; can we ever satisfy ourselves concerning any determination which we may form with regard to the origin of worlds, and the situation of nature from, and to eternity?

This narrow limitation, indeed, of our inquiries, is, in every respect, so reasonable, that it suffices to make the slightest examination into the natural powers of the human mind, and to compare them with their objects, in order to recommend it to us. We shall then find what are the proper subjects of science and inquiry.

It seems to me, that the only objects of the abstract sciences, or of demonstration, are quantity and number, and that all attempts to extend this more perfect species of knowledge beyond these bounds are mere sophistry and illusion. As the component parts of quantity and number are entirely similar, their relations become intricate and involved; and nothing can be more curious, as well as useful, than to trace, by a variety of mediums, their equality or inequality through their different appearances. But as all other ideas are clearly distinct and different from each other, we can never advance further, by our utmost scrutiny, than to observe this diversity, and, by an obvious reflection, pronounce one thing not to be another. Or if there be any difficulty in these decisions, it proceeds entirely from the undetermined meaning of words, which is corrected by juster definitions. That *the square of the hypotenuse is equal to the squares of the other two sides*, cannot be known, let the terms be ever so exactly defined, without a train of rea-

soning and inquiry. But to convince us of this proposition, *that where there is no property there can be no injustice*, it is only necessary to define the terms, and explain injustice to be a violation of property. This proposition is, indeed, nothing but a more imperfect definition. It is the same case with all those pretended syllogistical reasonings, which may be found in every other branch of learning, except the sciences of quantity and number; and these may safely, I think, be pronounced the only proper objects of knowledge and demonstration.

All other inquiries of men regard only matter of fact and existence; and these are evidently incapable of demonstration. Whatever *is* may *not be*. No negation of a fact can involve a contradiction. The non-existence of any being, without exception, is as clear and distinct an idea as its existence. The proposition which affirms it not to be, however false, is no less conceivable and intelligible, than that which affirms it to be. The case is different with the sciences, properly so called. Every proposition which is not true is there confused and unintelligible. That the cube root of 64 is equal to the half of 10, is a false proposition, and can never be distinctly conceived. But that Cæsar, or the angel Gabriel, or any being never existed, may be a false proposition, but still is perfectly conceivable, and implies no contradiction.

The existence, therefore, of any being, can only be proved by arguments from its cause or its effect; and these arguments are founded entirely on experience. If we reason *à priori*, any thing may appear able to produce any thing. The falling of a pebble may, for aught we know, extinguish the sun; or the wish of a man control the planets in their orbits. It is only experience which

teaches us the nature and bounds of cause and effect, and enables us to infer the existence of one object from that of another.* Such is the foundation of moral reasoning, which forms the greater part of human knowledge, and is the source of all human action and behavior.

Moral reasonings are either concerning particular or general facts. All deliberations in life regard the former; as also all disquisitions in history, chronology, geography, and astronomy.

The sciences, which treat of general facts, are politics, natural philosophy, physic, chemistry, etc., where the qualities, causes, and effects of a whole species of objects are inquired into.

Divinity or theology, as it proves the existence of a deity, and the immortality of souls, is composed partly of reasonings concerning particular, partly concerning general facts. It has a foundation in *reason*, so far as it is supported by experience. But its best and most solid foundation is *faith* and divine revelation.

Morals and criticism are not so properly objects of the understanding as of taste and sentiment. Beauty, whether moral or natural, is felt more properly than perceived. Or if we reason concerning it, and endeavor to fix the standard, we regard a new fact, to wit, the general taste of mankind, or some such fact which may be the object of reasoning and inquiry.

When we run over libraries, persuaded of these principles, what havoc must we make? If we take in our

* That impious maxim of the ancient philosophy, *Ex nihilo, nihil fit*, by which the creation of matter was excluded, ceases to be a maxim, according to this philosophy. Not only the will of the Supreme Being may create matter, but, for aught we know *à priori*, the will of any other being might create it, or any other cause, that the most whimsical imagination can assign.

hand any volume, of divinity or school metaphysics, for instance ; let us ask, *Does it contain any abstract reasoning concerning quantity or number ?* No. *Does it contain any experimental reasoning concerning matter of fact and existence ?* No. Commit it then to the flames ; for it can contain nothing but sophistry and illusion.